CHAPTER 4: ENVIRONMENTAL CONSEQUENCES AND ANALYSIS OF THE ALTERNATIVES

Introduction

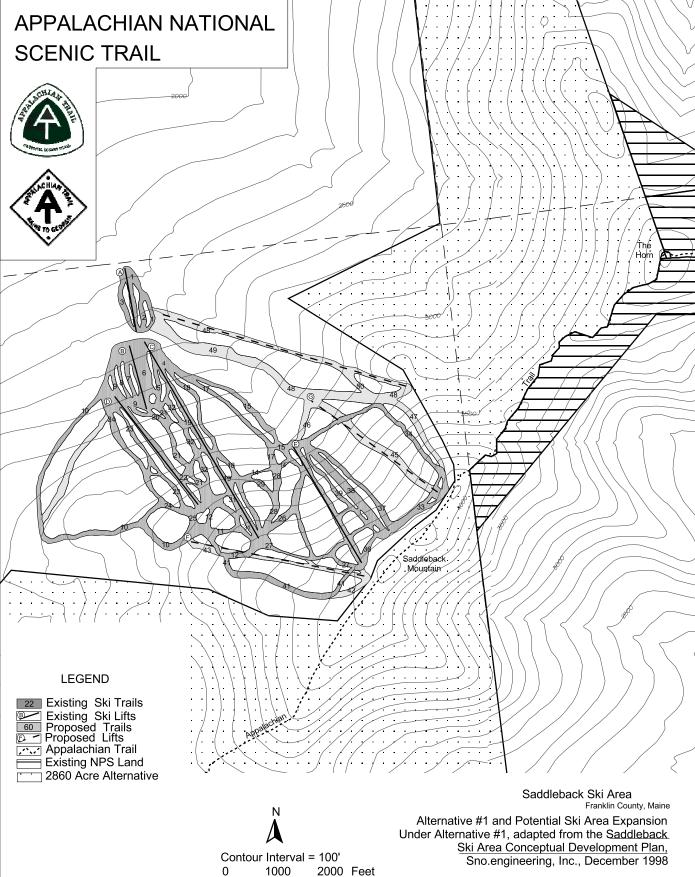
This section describes the anticipated environmental consequences of the four alternatives and the "no action" alternative. A comparative summary of the expected impacts of each alternative is provided at the end of the narrative. As noted previously, each alternative includes a "logical development scenario" for potential ski area expansion so that the impacts of potential ski area expansion to the Appalachian Trail and natural and cultural resources can be quantified. These "logical development scenarios," which were developed by Sno.engineering, Inc. (a firm specializing in ski area design based in Littleton, New Hampshire), are based on limited information provided by Saddleback Ski Area and Sno.engineering's best professional judgement as to how and where ski area development could occur under each of the alternatives. In other words, these "logical development scenarios" represent a professional ski area design firm's best estimation of the potential for ski area expansion for each alternative. Actual ski area expansion at Saddleback Ski Area would take place at the discretion of the owner of the ski area and would be dependent upon such factors as skier demand, financial feasibility, and environmental regulation, as well as the factors considered in this analysis.

Impacts of Alternative #1: Preservation of the Existing A.T. Experience across Saddleback Mountain

Under this alternative, the environment as perceived from the footpath of the Appalachian National Scenic Trail would remain much as it is today. The dramatic scenery and remote recreational environment would be virtually unchanged. This alternative also would provide the maximum degree of protection for the biological resources present on Saddleback Mountain. Saddleback Ski Area could expand to approximately four times its current capacity by constructing the No Name Nubble, Sundance, and Upper Advanced lifts and upgrading its current facilities to modern industry standards. However, the ski area would not be able to expand its operations beyond the limits of the present boundaries of its planned development subdistrict into the "saddle bowl" or onto the southeast side of the mountain. (See Map 4.1.1.)

<u>Geology</u>, land forms, and soils – This alternative would not result in any new direct impacts to geology, land forms, or soils, with the exception of minor ongoing erosion caused by continued use of the existing Appalachian Trail footpath and any other pedestrian trails on the mountain. Fragile soils at higher elevations on the mountain would be protected from all other forms of disturbance.

The only potential additional impacts to soils would be secondary, and would result not from the National Park Service's action but from construction of new lifts and ski trails at Saddleback Ski Area. These impacts would take place entirely within the boundaries of the planned development subdistrict approved by the Maine Land Use Regulation Commission.



Produced by ANST 05/15/99 d:\av_projects\saddleback.apr layout: 4.1 Alternative 1

Map 4.1.1

When the Maine Land Use Regulation Commission approved Saddleback Ski Area's proposed expansion in 1989 and 1994, they included a stipulation requiring the ski area to provide "on-site medium intensity soils mapping by a Maine licensed soil scientist which indicates that the soils in the proposed sites are acceptable for the proposed use" prior to construction of the Sundance and Upper Advanced lifts and trails. Presumably, any upgrading of the existing ski lifts and trails would be subject to the same requirement. As a result, this alternative would have minimal overall impact on soils.

<u>Visual resources</u> – Alternative #1 would maintain the existing visual landscape as seen from the Appalachian Trail, with the exception of impacts associated with the construction of the Sundance, Upper Advanced, and No Name Nubble lifts and related ski trails and facilities. These impacts, if properly mitigated, would not be apparent to most visitors on the Appalachian Trail. This alternative would protect virtually all of the foreground view area as seen from the Appalachian Trail and preserve the existing, undeveloped character of those lands that are key components of the visual landscape of the Appalachian Trail when viewed from the ridgeline of Saddleback Mountain. (See Photographs 3.1, 3.2, and 3.3 in Chapter 3, and Photo-simulation 4.1.3 on page 4-5.) Long-distance and close-range views of the ridgeline to the north of The Horn, the area surrounding Eddy Pond, and the southeast side of Saddleback Mountain would be preserved.

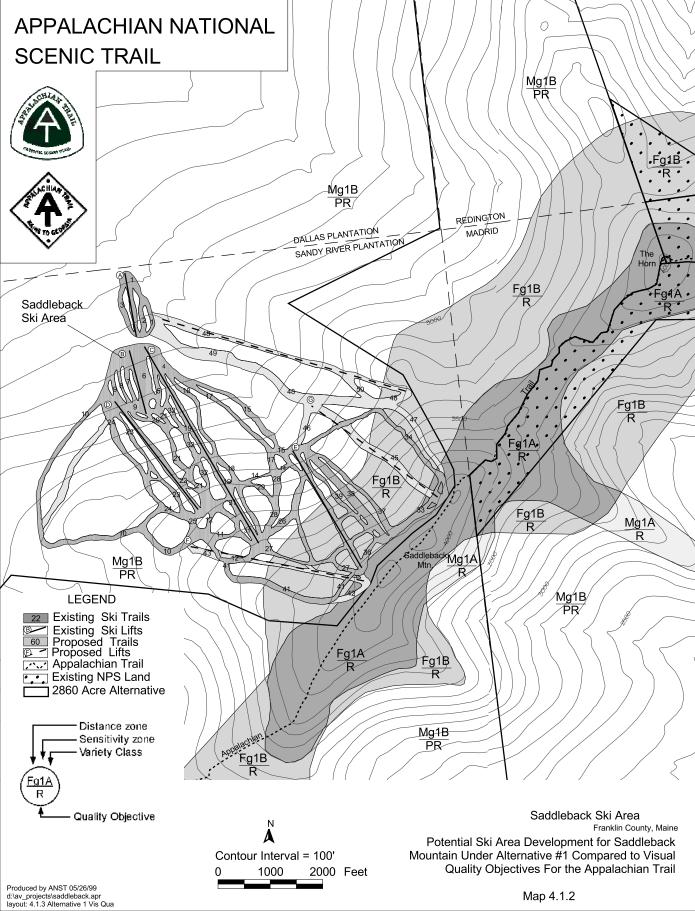
With proper mitigation, Alternative #1 would meet a Visual Quality Objective of "retention" for almost all foreground views and a Visual Quality Objective of "retention" for most middleground views as seen from the Appalachian Trail. (See Map 4.1.2.)

The only new visual intrusions into the existing landscape would be secondary impacts, and would be associated with the construction of ski area facilities that have already been conditionally approved by the Maine Land Use Regulation Commission. Of these facilities, only two – the Sundance and Upper Advanced lifts – would intrude into the "visual foreground zone" of the Appalachian Trail as mapped using the USDA Forest Service's Visual Management System.

When the Maine Land Use Regulation Commission (LURC) approved the Sundance and Upper Advanced lifts as part of Saddleback Ski Area's proposed planned development subdistrict (D-PD) application in 1989 and 1994, they required Saddleback Ski Area to submit, prior to construction:

an alternative location analysis that fully examines a wide range of alternative locations for each of these ski trail and ski lifts, and, to the Commission's satisfaction, determines suitable alternative locations that would, while serving skier needs, reduce the visual intrusion of the proposed developments on the Appalachian Trail...

(and)



a visual impact analysis which, to the Commission's satisfaction, comprehensively addresses the impact on the Appalachian Trail viewshed..., [which] shall be prepared using state of the art technologies for visual simulations such as computer modeling and photomontage techniques.

If the Sundance and Upper Advanced lifts and trails were designed and constructed in accordance with these stipulations, it is likely that visual impacts could be minimized to the point where they would not significantly affect the scenic environment of the Appalachian Trail.

Depending on the final design of the Sundance lift, an estimated 400 to 800 feet of the liftline would be visible from the footpath of the Appalachian Trail as it begins its ascent through the krummholz and alpine ridge communities on the southwestern flank of the mountain. If this lift is carefully designed and located, intervening vegetation and topography would likely obscure all but the uppermost portions of three or four lift towers and the upper lift terminal. However, the full extent of the visual impacts of this lift on the Appalachian Trail cannot be quantified until Saddleback Ski Area provides LURC with a final engineering design and visual impact analysis for this lift.

The Upper Advanced lift and associated ski trails would be visible in the "foreground zone" from the footpath of the Appalachian Trail just north of the summit of Saddleback Mountain. Views from the Appalachian Trail would be brief and partially obscured



Photo-simulation 4.1.3 Photo-simulation of potential ski area development under Alternative #1 as seen from the summit of The Horn (existing ski trails are visible in the background)

by intervening terrain. However, the full extent of the visual impact of this lift cannot be measured until Saddleback Ski Area provides LURC with a final engineering design and visual impact analysis for this lift.

The upper terminal for the No Name Nubble lift would be located just within the "foreground zone," but would only be visible from the Appalachian Trail in its traverse of the "saddle" and southwestern ascent of The Horn, more than one-half mile away, against a backdrop of the remainder of the existing ski area. (See Photo-simulation 4.1.3.)

With proper mitigation, these improvements would not result in significant change in size, intensity, or pattern, and would remain visually subordinate to the natural landscape.

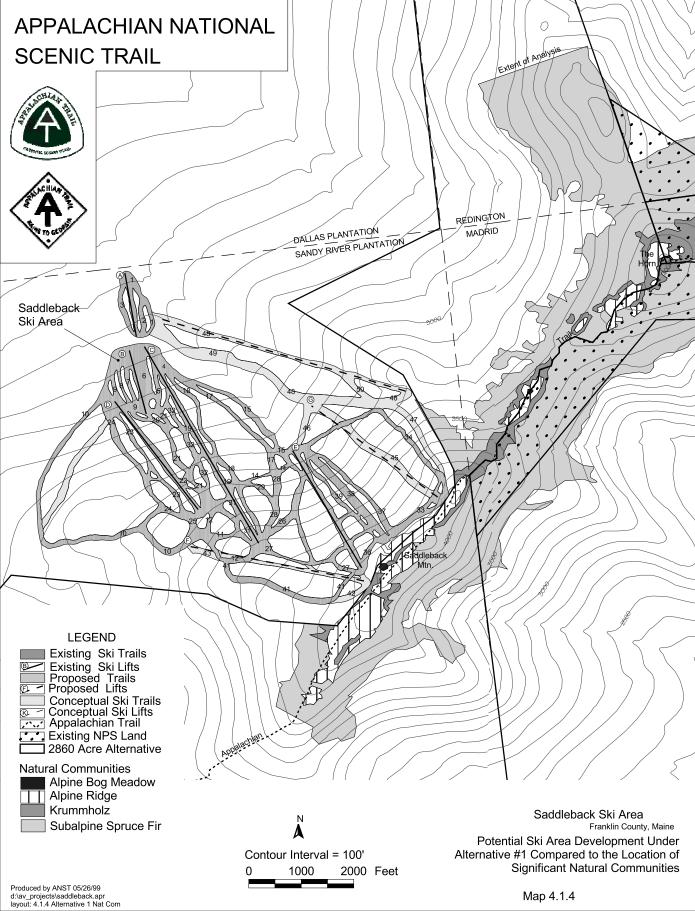
<u>Vegetation and Natural Communities</u> – This alternative would preserve virtually all of the extant alpine ridge, alpine bog meadow, krummholz, and subalpine spruce-fir forest communities on Saddleback Mountain, as well as extensive areas of spruce slope forest and early successional forest at lower elevations. (See Map 4.1.4.)

The alpine ridge community, which comprises approximately 58 acres, would be fully protected. Another 46 acres of krummholz also would be protected, as would virtually all of the 638-acre subalpine spruce-fir forest community within the study area. Two small alpine bog meadow communities – one near the summit of Saddleback and another in the "saddle" between the summit and The Horn – would be permanently protected. Two monomictic mesotrophic lake communities (Eddy Pond and Moose and Deer Pond), comprising approximately 14 acres, would be protected.

Direct impacts to these important natural communities would be associated with recreational foot traffic off existing trails, which may result in trampling, dislodging of individual plants within a community, or erosion or compaction of soils upon which these plants are dependent. Trail widening, which occurs in areas where the treadway is wet or muddy, also could affect these plant communities. These impacts, which are comparatively minor in scope, can be effectively mitigated through proper trail design, trail maintenance, and educational programs for visitors.

Any secondary impacts to vegetation and natural communities associated with potential ski area development would occur outside the study area and entirely within the boundaries of the existing planned development subdistrict, subject to Maine Land Use Regulation Commission regulations. Construction of the Sundance and Upper Advanced lifts and trails would require some clearing of subalpine spruce-fir forest vegetation. As part of its conditional approval of these lifts in 1989 and 1994, LURC stipulated that Saddleback Ski Area must submit:

an alternative location analysis that fully examines a wide range of alternative locations for each of these ski trail and ski lifts, and, to the Commission's satisfaction, determines suitable alternative locations that would, while serving skier needs, ...reduce the adverse impacts on alpine and protected subalpine vegetation.



If constructed in conformance with this requirement, construction of these lifts and associated trails would have no impact on alpine and krummholz communities, and minimal impact on the subalpine spruce-fir forest community.

Rare Plant Species – This alternative would provide permanent protection for known populations of six rare plant species, which are scattered about the alpine ridge and alpine bog-meadow communities. These six plant species include *Carex bigelowii* (Bigelow's sedge), *Diapensia lapponica* (diapensia), *Geocaulon lividum* (northern comandra), *Hierochloe alpina* (alpine holy grass), *Minuartia groenlandica* (mountain sandwort), and *Vaccinium boreale* (sweet hurts). No known federally listed threatened or endangered plant species would be affected by this alternative.

Under Alternative #1, the only potential direct impacts to known populations of rare plant species would be associated with trampling or dislodging of individual plants by hikers wandering off of existing trails, or erosion or compaction of soils. Trail-widening, which occurs in areas where the treadway is wet or muddy, also could affect several of these rare plant populations. These impacts, which are currently minor in scope, can be effectively mitigated through proper trail design, reconstruction, and maintenance, and educational programs for visitors.

Several other rare, threatened, and endangered plant species are known to occur in alpine habitats in western Maine (see Chapter 3), but it is not known whether these species are present or absent on Saddleback Mountain. Impacts to these species cannot be measured until detailed field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

Rare Animal Species – Any impacts to rare animal species would be secondary, and would occur as a result of ski area development outside the protected Appalachian Trail corridor. The most likely impacts to Bicknell's thrush (*Catharus bicknellii*) would occur as a result of removal or fragmentation of the subalpine spruce-fir forest community, which is primary breeding habitat for the thrush. Practices that maintain intact high-elevation spruce-fir forests should benefit the species (Woodlot Alternatives, 1999). Alternative #1, which would protect all 638 acres of the subalpine spruce-fir community within the study area from development, would afford the highest level of protection for Bicknell's thrush. (See Map 4.1.4.)

Four other rare animal species – *Microtus chrotorrhinus* (yellow-nosed vole), *Piciodes tridactylus* (northern three-toes woodpecker), *Sorex dispar* (long-tailed shrew), and *Synaptomys borealis* (northern bog-lemming) – are known to occur in alpine habitats in western Maine, but it is not known whether these species are present or absent on Saddleback Mountain. Impacts to these species cannot be measured until field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

No known federally listed threatened or endangered animal species would be affected by this alternative.

<u>Wildlife</u> – This alternative would not result in any significant change in wildlife habitat. Approximately 2,860 acres would be protected in a natural state.

<u>Water resources</u> – This alternative would preserve Eddy Pond, Moose and Deer Pond, and the headwaters of all tributary streams on Saddleback Mountain in their natural state. In addition, this alternative would protect two small graminoid swale wetlands located west of Eddy Pond.

Secondary impacts associated with ski area expansion could result in clearing up to 60 additional acres, with corresponding increases in run-off and peak flows during storm events. However, if erosion and sedimentation control measures were implemented during construction of ski lifts and trails, impacts on streams would be minimized. Ski area development would potentially increase stream temperatures and decrease dissolved oxygen levels in nearby streams, but cumulative impacts on downstream waters would be insignificant and would be absorbed by the watershed.

Snowmaking coverage on 81% of the ski trails at full build-out under this alternative would require approximately 136.4 million gallons of water, or 418.6 acre-feet of water. Saddleback Lake, which is approximately 336 acres in size, would be the logical source of water for this volume of water.

Eddy Pond would not be used for snowmaking purposes. Water quality in Eddy Pond, which has been identified by the Maine Land Use Regulation Commission as a "water-quality limited lake," would be maintained.

<u>Cultural resources</u> – Alternative #1 would ensure permanent protection of the existing footpath and setting of the Appalachian Trail, which has been identified by the Maine Historic Preservation Commission as a potentially significant historic resource that should be evaluated for nomination to the National Register of Historic Places.

Alternative #1 would not affect any known archaeological resources. According to the Maine Historic Preservation Commission, the probability of significant cultural resources (other than the Appalachian Trail) being present in the study area is low. However, no detailed field surveys have been conducted.

Recreation – This alternative would protect and preserve the existing recreational experience along this section of the Appalachian National Scenic Trail. Saddleback Mountain, like Katahdin, would continue to provide visitors with an extended, above-treeline, remote recreational experience, dramatic 360° views of the surrounding landscape, intimate views of subalpine and alpine vegetation and the evidence of past geologic and climatologic extremes, and a marked sense of the predominance and scenic grandeur of the natural world.

The entire 13.4-mile stretch of the Appalachian Trail between Route 4 and Orbeton Stream would be perceived by visitors as a natural environment all but untouched by man, with the only apparent evidence of development near the Trail being the access road near Eddy Pond at the base of the southwestern flank of the Saddleback Mountain, intermittent views of the Sundance and Upper Advanced lifts, and views of the existing ski area from The Horn.

Eddy Pond would retain its current character as a remote recreational resource. Hikers ascending Saddleback Mountain and traversing the "saddle" to The Horn would continue to pass through an extraordinary natural landscape consisting of a narrow band of alpine tundra-like vegetation and stunted krummholz bounded on both sides by the vast, unbroken forested slopes of the mountain. During the entire traverse of the ridgeline of Saddleback Mountain above treeline, hikers on the Appalachian Trail would be conscious of the elements of the natural world, with few apparent intrusions or developments near the Trail.

Saddleback Ski Area, if it fulfills the requirements of its permit from the Maine Land Use Regulation Commission, could construct four additional ski lifts and six additional ski trails. In addition, the existing ski lift and trail network at Saddleback Mountain could be enhanced by upgrading existing facilities, widening several existing trails, and constructing several new trails within the boundaries of the planned development subdistrict (D-PD). In total, these enhancements could provide for an increase in capacity to approximately 5,000 skiers-at-one-time (SAOT), or roughly four times the current capacity at Saddleback Mountain.

Table 4.1.5 Saddleback Ski Area, projected lift capacity at full build-out under Alternative #1, adapted from the <u>Saddleback Ski Area Conceptual Development Plan</u>, Sno.engineering, Inc., December 1998

Map	Name/Type	Length	Vertical	Capacity	VTF/	Utilization	CCC
		(ft.)	(ft.)	(persons/	Hour	Rate	(guests)
				hour)	(000)		
A	Buggy/Baby Triple	1,285	164	1,200	197	85%	300
В	Surrey/Quad	1,397	228	2,200	502	85%	500
С	Stagecoach/Quad	4,540	1,130	2,200	2,486	90%	1,000
D	Pony Express/Quad	2,380	647	1,200	776	90%	500
Е	Wells Fargo/Quad	2,622	974	1,800	1,753	90%	500
F	Sundance/Quad	3,500	750	1,300	975	90%	500
G	Advanced/Quad	3,000	1,010	1,800	1,818	90%	500
Н	Nubble/Detachable	5,000	910	1,500	1,365	90%	1,200
Totals		23,724	5,813	13,200	9,872		5,000

This comparatively modest level of ski area expansion could be designed and constructed in a manner that provides for a breakdown of skiable terrain that compares well with the ideal breakdown of terrain for a ski area in the Northeast. While the percentages for acreage are close to ideal, an analysis of the "comfortable carrying capacity" indicates that this design scenario would result in a shortage of available advanced and expert capacity, with excess novice and low intermediate capacity. The chart below contrasts the skill level distributions for ski trails that

could be developed at Saddleback Ski Area under Alternative #1 with the skill level distribution for an "ideal" ski area in the Northeast region.

Table 4.1.6 Saddleback Ski Area, projected classification breakdown by "comfortable carrying capacity" and acreage at full build-out under Alternative #1, adapted from the <u>Saddleback Ski</u> Area Conceptual Development Plan, Sno.engineering, Inc., December 1998

Ability Level	Number	CCC**	Acreage	CCC**	Acreage	Ideal
	of Trails	(guests)		Percent	Percent	
Beginner	0	0	0.0	0%	0%	5%
Novice	7	940	18.4	19%	12%	12%
Low Intermediate	8	1,500	36.6	30%	23%	18%
Intermediate	18	1,680	54.2	33%	35%	35%
Advanced	9	680	34.0	14%	22%	20%
Expert	7	200	12.9	4%	8%	10%
Totals:	50*	5,000	156.1	100%	100%	100%

^{*}includes one trail that provides access to condominiums and parking

Under this scenario, Saddleback Ski Area would provide skiers with a more modern version of the recreational experience that it currently offers. The ski area would be similar in size and capacity to Waterville Valley and Loon Mountain in New Hampshire. The area would have a "big mountain" feel, but would necessarily have to compete for a smaller market niche than the Sugarloaf or Sunday River ski areas. Future opportunities to expand Saddleback Ski Area into a major destination ski resort of the scale of Sugarloaf or Sunday River would be foreclosed.

There would be little or no impact on other recreational opportunities in the area. In addition to skiing and hiking, other recreational activities – hunting, fishing, boating, sight-seeing, and snowmobiling – would continue to be popular recreational attractions in the Rangeley Lakes area. ITS 84/89, an existing snowmobile trail that crosses the southeastern portion of the property, would remain open.

<u>Social and Economic Consequences</u> – The only direct impact associated with Alternative #1 would be a slight decrease in the property tax base in Sandy River Plantation, Madrid, and Redington, due to the transfer of property from private to public ownership. This impact would be largely offset by payments under the Payments-in-Lieu-of-Taxes (PILT) program.

The remaining socioeconomic impacts identified in this analysis represent the impacts that could be projected to occur if the National Park Service acquires the lands identified in Alternative #1 and Saddleback Ski Area invests the funds necessary to expand the ski area to the full build-out

^{**}CCC, or "comfortable carrying capacity," is typically used as a measurement of the total ski area capacity (both uphill and downhill capacity), and is generally considered to be a more reliable measurement of a ski area's capacity than acreage

of the "logical development scenario" under Alternative #1. These social and economic impacts would be secondary impacts, and would be dependent in part on the actions of the owner of Saddleback Ski Area and state and local agencies with jurisdiction over development of the ski area. As noted elsewhere, this socioeconomic analysis is not an appraisal of Saddleback Ski Area's property, nor is it an indication of the financial feasibility of pursuing ski area expansion at Saddleback. The comparative analysis at the end of this chapter provides additional information regarding the potential social and economic consequences of this and other alternatives.

It is also important to note that the impacts identified below assume complete certainty of ski area expansion to the maximum degree feasible under this alternative. However, the economic supply and demand factors discussed in the detail in the comparative analysis at the end of this chapter suggest that the likelihood of expansion at Saddleback Ski Area is not certain. Therefore, the impacts described below should not be considered as certain, but rather discounted to reflect the uncertainty of expansion.

Under Alternative #1, Saddleback Ski Area could increase its "comfortable carrying capacity" from 1,300 skiers at one time (SAOT) to 5,000 SAOT. If Saddleback Ski Area expanded to this capacity, skier-visits would be projected to increase from the current 33,250 per season to 53,000 skier-visits per season at the end of a ten-year phase-in period. Although this represents a substantial increase in visitation over current use levels, the ski area's utilization rate (9%) would be low by industry standards. (See Appendix D for an explanation of the methodology used in making these projections.)

Table 4.1.7 below shows projected construction costs for potential expansion at Saddle-back Ski Area under Alternative #1, assuming the ski area builds out to the full capacity.

Table 4.1.7 Annual construction: potential ski area expansion under Alternative #1

,	Construction Spending in \$\$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year Totals
On-Mountain	\$1.70	\$0.66	\$1.05	\$0.51	\$2.49	\$0.75	\$0.41	\$0.88	\$2.23	\$1.85	\$12.52
Base Area		\$0.10	\$0.10	\$0.10	\$2.93	\$2.93	\$0.10	\$0.10			\$6.36
Total Construction	\$1.70	\$0.76	\$1.16	\$0.62	\$5.42	\$3.68	\$0.51	\$0.98	\$2.23	\$1.85	\$18.88
- Lift Construction	\$1.70	\$0.66	\$0.56	\$0.51		\$0.75		\$0.88		\$1.85	\$6.90
Local Construction		\$0.10	\$0.60	\$0.10	\$5.42	\$2.93	\$0.51	\$0.10	\$2.23	\$0.00	\$11.98

Table 4.1.8 below shows projected annual construction jobs that could be created by expansion activity at Saddleback Ski Area, again assuming that the ski area builds out to its full capacity. Employment is shown in Full-Time Equivalents (FTEs). These jobs would cease when the phase-in is complete.

Table 4.1.8 Annual construction jobs: potential ski area expansion under Alternative #1

		Construction Employment in Full-Time Equivalents										
Phase-In Year	1	2.	3	4	5	6	7	8	9	10	10 Year 'Total	
FTEs	0	2	9	2	86	47	8	2	35	0	191	

Table 4.1.9 shows annual personal income that could be generated by construction activity related to expansion at Saddleback Ski Area under this alternative.

Table 4.1.9 Annual personal income generated by construction for ski area expansion under Alternative #1

	Total Personal Income in \$\$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year 'Total
Employment	\$0.00	\$0.05	\$0.27	\$0.05	\$2.44	\$1.32	\$0.23	\$0.05	\$1.00	\$0.00	\$5.39

Table 4.1.10 below shows net increases in employment that could occur at Saddleback Ski Area through the phase-in period under Alternative #1. Employment is shown in FTEs. Employment estimates are based on ski industry values for ski areas of similar size. The number of FTEs in the tenth year would be expected to continue into the future.

Table 4.1.10 Net increases in Saddleback Ski Area employment under Alternative #1

	Net Increase in Resort Employment (FTEs)										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	
Net Increase	12	17	30	32	32	56	56	80	80	168	

Table 4.1.11 below shows projected annual expenditures by Saddleback Ski Area visitors, both in terms of expenditures at the resort and in the remainder of Franklin County, assuming that the ski area builds out to its full capacity within ten years. The amount of expenditures in the tenth year would be expected to continue into the future.

Table 4.1.11 Expenditures by Saddleback Ski Area visitors under Alternative #1

		Annual Expenditures in \$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	Totals	
In Resort	\$0.06	\$0.09	\$0.12	\$0.15	\$0.21	\$0.34	\$0.46	\$0.52	\$0.58	\$0.61	\$3.15	
Outside Resort	\$0.07	\$0.11	\$0.14	\$0.18	\$0.25	\$0.39	\$0.54	\$0.61	\$0.68	\$0.72	\$3.69	
Totals	\$0.13	\$0.20	\$0.27	\$0.33	\$0.47	\$0.73	\$1.00	\$1.13	\$1.26	\$1.33	\$6.85	

At the completion of the phase-in period, the economic modeling process indicates that approximately 49 new full-time job equivalents could be created in Franklin County if Saddleback Ski Area were to expand to full build-out capacity under Alternative #1. The economic modeling process also projects that an annual total of \$441,770 in additional personal income could be created by the end of the tenth year. Table 4.1.12 below shows estimates of employment (FTEs) and personal income that could be generated by ski area expansion on secondary, indirect, induced, and total employment.

Table 4.1.12 Secondary, indirect, induced and total employment and personal income generated by ski area expansion under Alternative #1

			Annual
At Completion		Employment	Personal Income
of Phase-in:		FTEs	\$Millions
	Secondary	40	\$0.44
	Indirect	4	\$0.07
	Induced	5	\$0.09
		49	\$0.60

Table 4.1.13 below shows the migration rate (in households), population increases, and new housing demand that could be generated by ski area expansion under Alternative #1.

Table 4.1.13 Migration, population and new housing demand under Alternative #1

Migration Impact:	New Jobs 49	Migration X Rate 0.12	Migrant = Households 6
Population Impact:	Migrant Households 6	Persons Per X Household 2.5	Population = Impact 15
Housing Demand:	Migrant Households 6	New Demand X Rate 0.75	Housing = Need 4

Expansion of the ski area consistent with the logical development scenario for Alternative #1 would create both additional taxable property and demands for increases in municipal services in the communities in which Saddleback Ski Area operates. If Saddleback Ski Area constructs the lifts that have been approved by the Maine Land Use regulation Commission and upgrades its existing facilities to industry standards, property tax payments to Sandy River Plantation can be expected to increase commensurate with the increased valuation of the personal property that is added. No ski area development would occur in other townships, and no change would occur in either taxable property or demands for increases in municipal services in these townships.

<u>Consistency with Planning Documents</u> – Alternative #1 would be fully consistent with planning objectives for protection of "remote resources" along the Appalachian National Scenic Trail, which emphasize acquisition of sufficient interests to "preserve the remote character" and "protect native vegetation, wildlife, and water resources." This alternative also would be

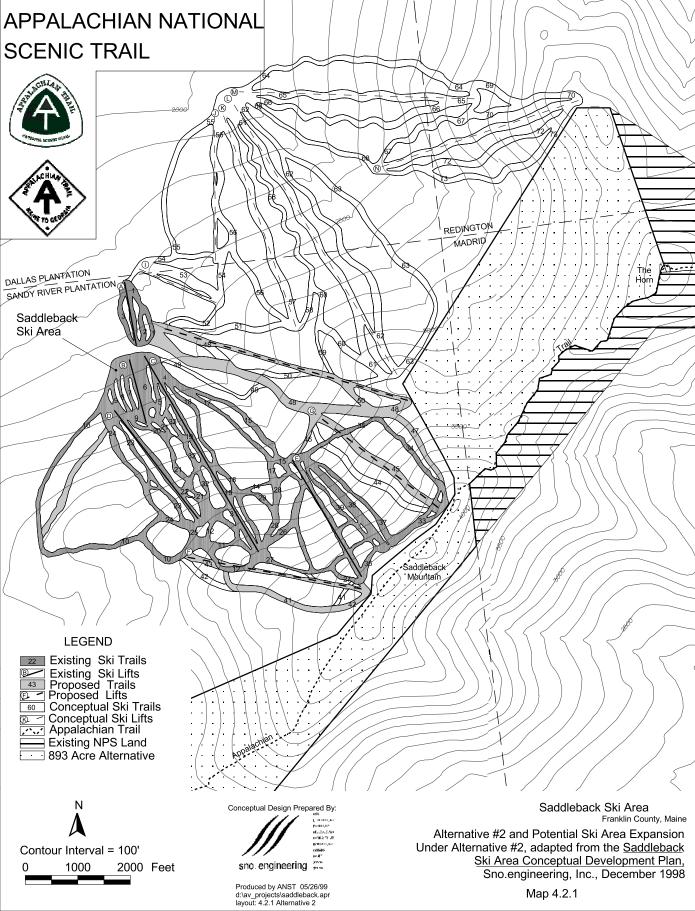
consistent with the planning objectives for protection of "significant natural area resources," which emphasize acquisition of sufficient interests "to preserve natural and geologic features, vistas, vegetation, wildlife, and water quality." This alternative would provide for the landowner's existing development and current expansion plans, but would preclude additional development beyond the currently planned expansion of the ski area.

Alternative #1 also would be consistent with current Maine Land Use Regulation Commission designations for the subject area. Most of the proposed 2,860-acre acquisition area falls within areas designated by LURC as Mountain Areas Protection (P-MA) or Recreation Protection (P-RR) subdistricts. The primary purpose of the Mountain Areas Protection subdistrict (P-MA) designation is "to regulate certain land use activities in mountain areas in order to preserve the natural equilibrium of vegetation, geology, slope, soil and climate..., to protect water quality, and to preserve mountain areas for their scenic values and recreational opportunities." Dispersed recreational activities such as hiking are considered fully compatible with this subdistrict. This alternative also would be fully consistent with the Recreation Protection subdistricts (P-RR) that have been identified to protect the primitive recreational resources of the Appalachian Trail and Eddy Pond. Saddleback Ski Area's planned development subdistrict (D-PD) would be excluded from the proposed acquisition area.

Alternative #1 would be consistent with the Town of Madrid's Woodland/Recreational District zoning for the portion of the property that is within the town boundaries.

Impacts of Alternative #2: Protection of the Visual Foreground Zone as Seen from the Appalachian Trail across Saddleback Mountain

Under this alternative, the environment as perceived from the footpath of the Appalachian Trail would remain much as it is today. Though changes in the landscape would occur, the most noticeable changes would occur in the middleground view area at distances of a half-mile or more from the Appalachian Trail. As a result, any changes would – if designed and constructed with sensitivity to the scenic values of the Trail – be subordinate to the natural features of the landscape. Saddleback Ski Area could construct the El Hombre, No Name Nubble, Sundance, and Upper Advanced lifts. Saddleback Ski Area also could upgrade its current facilities to modern industry standards, and expand into the lower elevations of the "saddle bowl" and up to the 3,772-foot peak north and west of The Horn. By doing so, the ski area could expand to approximately nine times its current capacity. However, the ski area would not be able to expand its operations into the upper reaches of the saddle "bowl" or onto the southeast side of the mountain. (See Map 4.2.1.)



<u>Geology</u>, land forms, and soils – This alternative would not result in any new direct impacts to geology, land forms, or soils, with the exception of minor ongoing erosion caused by continued use of the existing Appalachian Trail footpath and any other pedestrian trails on the mountain. Fragile soils at the upper elevations on the mountain would be protected from all other forms of disturbance.

The only potential impacts to soils would be secondary, and would result not from the National Park Service's action but from construction of new ski lifts and trails at Saddleback Ski Area within the limits of the ski area's existing planned development subdistrict and in the "saddle bowl." Most of the impacts in the "saddle bowl" would be limited to lower elevations of the mountain, where soils are deeper and less vulnerable to disturbance.

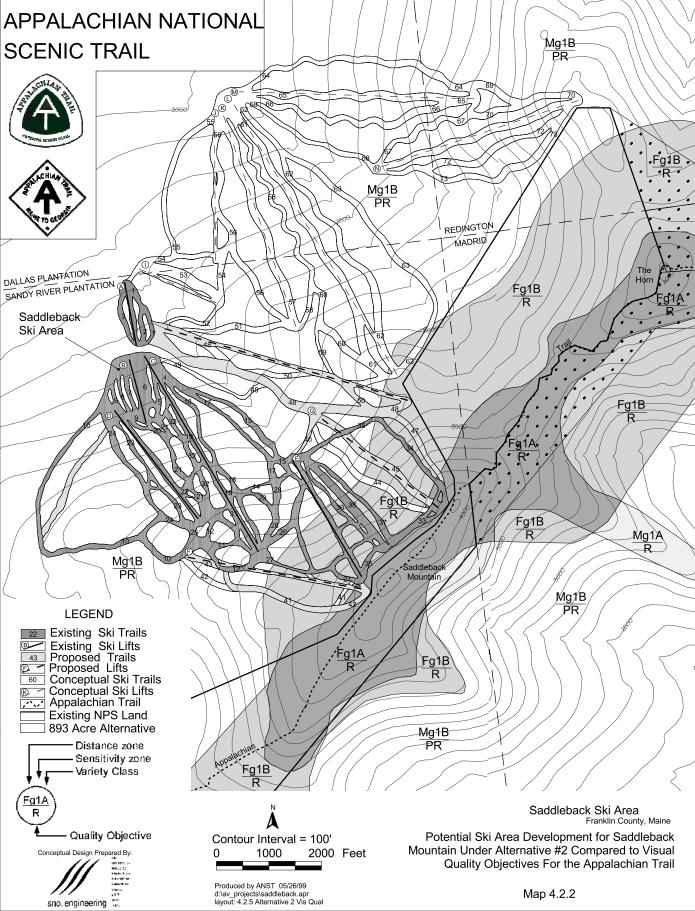
When the Maine Land Use Regulation Commission (LURC) approved Saddleback Ski Area's proposed expansion in 1989 and 1994, they included a stipulation requiring Saddleback Ski Area to conduct "on-site medium intensity soils mapping by a Maine licensed soil scientist which indicates that the soils in the proposed sites are acceptable for the proposed use" prior to construction of the Sundance and Upper Advanced lifts and trails.

Presumably, LURC would impose a similar requirement on any ski area expansion in the "saddle bowl" or upgrading of the existing lifts and trails within the planned development subdistrict (D-PD) boundaries. As a result, this alternative would have limited overall impact on soils.

<u>Visual resources</u> – Alternative #2 would maintain the existing visual landscape to a significant degree. This alternative would protect virtually all of the foreground view area as seen from the Appalachian Trail, but extensive ski area development could occur in the "visual middleground zone" as seen from the Appalachian Trail. In addition, ski area development within the existing planned development subdistrict (D-PD) could occur, with the same degree of impact considered in Alternative #1. Long-distance and close-range views of The Horn, the area surrounding Eddy Pond, and the southeast side of Saddleback Mountain would be preserved.

With proper mitigation, Alternative #2 would meet a Visual Quality Objective of "retention" for most foreground views and "partial retention" for all visual middleground views as seen from the Appalachian Trail. (See Map 4.2.2.)

The changes in the existing landscape would be associated with the construction of ski area facilities outside the proposed acquisition area. Of these facilities, only two – the Sundance and Upper Advanced lifts – would intrude to any degree into the "visual foreground zone" of the Appalachian Trail. The upper terminal for the No Name Nubble lift, which would be located just within the foreground zone, would only be visible from locations at least one-half mile away. Impacts associated with the construction of these three lifts would be identical to Alternative #1.



If the ski area expanded into the lower elevations of the 'saddle bowl" and onto the slopes of the 3,772-foot peak west of The Horn, changes would be evident but would remain visually subordinate to the surrounding natural landscape. According to Sno.engineering, Saddleback Ski Area could construct six new ski lifts and 32 new ski trails in the "saddle bowl" under this alternative. Under Sno.engineering's "logical development scenario" for Alternative #2, two lifts would be built on the westerly slopes of the 3,772-foot peak located northwest of The Horn, one lift would terminate on the west side of No Name Nubble, and three other lifts would be built at lower elevations northwesterly of No Name Nubble. (See Map 4.2.1.)

Though all of the lifts and most of the trails in the "saddle bowl" would be visible from parts of the Appalachian Trail, none would be located within the visual foreground zone. (See Photosimulations 4.2.3 and 4.2.4.) The closest lifts would be the two lifts terminating on No Name Nubble, which is located approximately 2,500 feet from the Appalachian Trail.



Photo-simulation 4.2.3 Photo-simulation of potential ski area development in the "saddle bowl" under Alternative #2, as seen from the Appalachian Trail near the summit of Saddleback Mountain

Because of the distance between these potential ski area facilities and the Appalachian Trail, many of the more evident changes in the landscape would be visually subordinate to the natural landscape. Mitigating measures, such as feathering of the edges of ski trails, leaving vegetative islands, and other design features could help achieve a Visual Quality Objective of "partial retention" for middleground views.

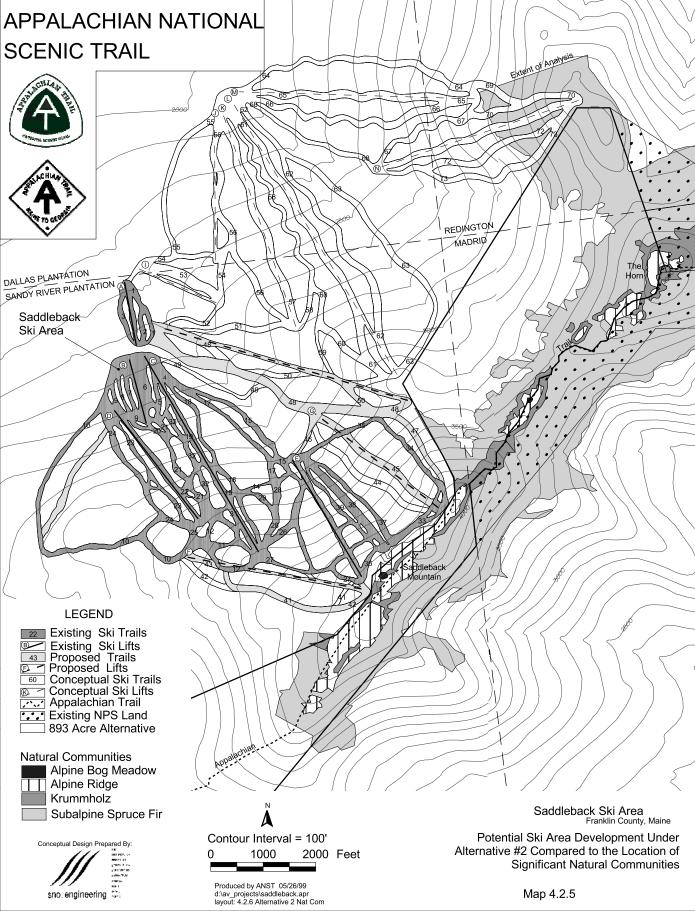


Photo-simulation 4.2.4 Photo-simulation of potential ski area development in the "saddle bowl" under Alternative #2, as seen from the Appalachian Trail on The Horn (existing ski area development visible in background)

<u>Vegetation and Natural Communities</u> – This alternative would preserve virtually all of the extant alpine ridge, alpine bog meadow, and krummholz communities on Saddleback Mountain, as well as a 2,000-foot wide band of spruce slope forest and early successional forest at lower elevations. In addition, approximately 94% of the subalpine spruce-fir forest community within the study area would be protected. (See Map 4.2.5.)

The 58-acre alpine ridge community and 46-acre krummholz community would be protected, as would approximately 602 acres of the 638-acre subalpine spruce-fir forest community within the study area. Two small alpine bog-meadow communities – one near the summit of Saddleback and another in the "saddle" between the summit and The Horn – would be permanently protected. One monomictic mesotrophic lake community (Eddy Pond), comprising approximately 9 acres, would be protected.

Direct impacts to these important natural communities would be associated with recreational foot traffic off existing trails, which may result in trampling, dislodging of individual plants within a community, or erosion or compaction of soils upon which these plants are dependent. Trail-widening, which occurs in areas where the treadway is wet or muddy, also could affect these plant communities. These impacts, which are comparatively minor in scope, can be effectively mitigated through proper trail design, trail maintenance, and educational programs for visitors.



Any secondary impacts to vegetation and natural communities associated with potential ski area development would occur within the boundaries of the existing planned development subdistrict, in the lower elevations of the "saddle bowl," or on the westerly slopes of the 3,772-foot peak northwest of The Horn. The construction and operation of the lifts and trails that were conditionally approved by the Maine Land Use Regulation Commission in 1989 and 1994 and upgrading existing lifts to industry standards would have the same degree of impact on vegetation and natural communities as described in Alternative #1.

In addition, approximately 262 acres of additional clearing could occur if Saddleback Ski Area expanded its facilities in the "saddle bowl." Most of this ski area expansion in the "saddle bowl" would occur at lower elevations in spruce slope and early successional forest types. No alpine or krummholz communities would be affected, but approximately 20 acres of the subalpine spruce-fir community on the western slopes of the 3,772-foot peak north and west of The Horn would be cleared for ski trails and lifts and another 16 acres would be fragmented from the community.

When the Maine Land Use Regulation Commission issued its conditional approval of Saddleback Ski Area's proposed planned development subdistrict in 1989 and 1994, it stipulated that the ski area must submit:

"an alternative location analysis that fully examines a wide range of alternative locations for each of these ski trail and ski lifts, and, to the Commission's satisfaction, determines suitable alternative locations that would, while serving skier needs, ...reduce the adverse impacts on alpine and protected subalpine vegetation."

If constructed in conformance with this requirement, construction of ski lifts and associated ski trails under Alternative #2 would have no impact on alpine and krummholz communities and minimal impact on subalpine spruce-fir communities.

Rare Plant Species – This alternative would provide permanent protection for known populations of six rare plant species, which are scattered about the alpine ridge and alpine bog meadow communities. These six plant species include *Carex bigelowii* (Bigelow's sedge), *Diapensia lapponica* (diapensia), *Geocaulon lividum* (northern comandra), *Hierochloe alpina* (alpine holy grass), *Minuartia groenlandica* (mountain sandwort), and *Vaccinium boreale* (sweet hurts). No known federally listed threatened or endangered plant species would be affected by this alternative.

Direct impacts to known rare plant species would be similar to Alternative #1. These impacts, which are currently minor in scope, can be effectively mitigated through proper trail design, reconstruction, and maintenance, and educational programs for visitors.

Several other rare, threatened, and endangered plant species are known to occur in alpine habitats in western Maine (see Chapter 3), but it is not known whether these species are present or absent on Saddleback Mountain. Impacts to these species cannot be measured until detailed field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

Rare Animal Species – Any impacts to rare animal species would be secondary, and would occur as a result of ski area development outside the protected Appalachian Trail corridor. The most likely impacts to Bicknell's thrush (*Catharus bicknellii*) would occur as a result of removal or fragmentation of the subalpine spruce-fir forest community, which is its primary breeding habitat.

Approximately 602 acres of the 638-acre subalpine spruce-fir community in the study area would remain intact. (See Map 4.2.5.) Of the remaining 36 acres, approximately 20 acres would be cleared for ski lifts and trails and 16 would be fragmented from the primary community by ski area development near the summit of the 3,772-foot peak. Though any potential reduction in overall breeding habitat is likely to have a corresponding adverse impact on total population, the actual effect of this amount of habitat reduction on the total *Catharus bicknellii* population on Saddleback Mountain is unknown.

As with Alternative #1, impacts to four other animal species – *Microtus chrotorrhinus* (yellownosed vole), *Piciodes tridactylus* (northern three-toes woodpecker), *Sorex dispar* (long-tailed shrew), and *Synaptomys borealis* (northern bog-lemming) – cannot be measured until field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

No known federally listed threatened or endangered animal species would be affected by this alternative.

<u>Wildlife</u> – This alternative would not result in any significant change in wildlife habitat. Approximately 893 acres would be protected in a natural state.

<u>Water resources</u> – This alternative would preserve Eddy Pond and the headwaters of all tributary streams on Saddleback Mountain in their natural state.

Secondary impacts associated with ski area expansion could result in clearing up to 262 additional acres, with corresponding increases in run-off and peak flows during storm events. However, if erosion and sedimentation control measures were implemented during construction of ski lifts and trails, impacts on streams would be minimized. Ski area expansion into the "saddle bowl" would potentially increase stream temperatures and decrease dissolved oxygen levels in Haley Brook and other nearby streams, but cumulative impacts on downstream waters would be minimal and would be absorbed by the watershed.

Snowmaking coverage on 88% of the ski trails at full build-out under this alternative would require approximately 337.5 million gallons of water, or 1,035.7 acre-feet of water. Saddleback Lake would be the logical source for this volume of water.

Eddy Pond would not be used for snowmaking purposes. Water quality in the pond would be maintained, consistent with its designation as a "water quality limited lake" by the Maine Land Use Regulation Commission.

<u>Cultural resources</u> – Alternative #2 would ensure permanent protection of the existing footpath and setting of the Appalachian National Scenic Trail, which has been identified by the Maine Historic Preservation Commission as a potentially significant historic resource that should be evaluated for nomination to the National Register of Historic Places.

Alternative #2 would not affect any known archaeological resources. According to the Maine Historic Preservation Commission, the probability of significant cultural resources (other than the Appalachian Trail) being present in the study area is low. However, no detailed field surveys have been conducted.

<u>Recreation</u> – This alternative would protect and preserve much of the existing recreational experience along this section of the Appalachian National Scenic Trail. Saddleback Mountain, like Katahdin, would continue to provide visitors with an extended, above-treeline, remote recreational experience in a predominantly natural setting, dramatic 360° views of the surrounding landscape, an intimate view of subalpine and alpine vegetation and the evidence of geologic and climatologic extremes, and a marked sense of the predominance and scenic grandeur of the natural world.

Eddy Pond would retain its current character as a remote recreational resource, although the road crossing north of the pond would be used infrequently as access for timber management. Otherwise, the environment and hiking experience from Eddy Pond to the summit of Saddleback Mountain would be very similar to the environment and hiking experience described in Alternative #1.

The four lifts (the Sundance, Upper Advanced, El Hombre, and No Name Nubble lifts) and six ski trails proposed by Saddleback Ski Area and conditionally approved by the Maine Lane Use Regulation Commission in 1989 and 1994 could be constructed. In addition, the existing facilities could be upgraded to modern industry standards. Impacts of both of these actions are described in Alternative #1.

South of the summit, hikers would continue to pass through an extraordinary natural landscape consisting of a narrow band of alpine tundra-like vegetation and stunted krummholz. During the southern ascent of the ridgeline of Saddleback Mountain, most hikers on the Appalachian Trail would be conscious only of elements of the natural world, with few visible intrusions or developments near the Trail.

North of the summit, changes in the landscape would be evident to even the most casual observer if Saddleback Ski Area expanded into the "saddle bowl." However, all of this potential development would occur outside the "visual foreground zone." While this development would occur in a presently undeveloped landscape, it would occur at a distance and would not be perceived as a direct intrusion on the Appalachian Trail.

Saddleback Ski Area would be able to undertake significant expansion. The ski area could construct the four additional lifts that have been conditionally approved by LURC, upgrade their current facilities to modern industry standards, and expand into the lower elevations of the "saddle bowl." According to Sno.engineering, six new quad lifts could be built at lower

elevations in the "saddle bowl" and up to the 3,772-foot peak. In total, Saddleback Ski Area could construct nine new lifts and 32 new ski trails, covering an additional 262 acres. The entire development in the "saddle bowl" area could be interconnected to the existing ski area. (See Map 4.2.1.)

The construction of the facilities that Saddleback Ski Area has received conditional approval for and the use of the expansion terrain available under Alternative #2 would

Table 4.2.6 Saddleback Ski Area, projected lift capacity at full build-out under Alternative #2, from the <u>Saddleback Ski Area Conceptual Development Plan</u>, Sno.engineering, Inc., December 1998

Map	Name/Type	Length	Vertical	Capacity	VTF/	Utilization	CCC
_	•	(ft.)	(ft.)	(persons/ hour)	Hour (000)	Rate	(guests)
A	Buggy/T-Bar Triple	1,285	164	1,200	197	85%	300
В	Surrey/Quad	1,397	228	2,200	502	85%	500
С	Stagecoach/Quad	4,540	1,130	2,200	2,486	90%	1,000
D	Pony Express/Quad	2,380	647	1,200	776	90%	500
Е	Wells Fargo/Quad	2,622	974	1,800	1,753	90%	500
F	Sundance/Quad	3,500	750	1,300	975	90%	600
G	Advanced/Quad	3,000	1,010	1,800	1,818	90%	700
Н	Nubble/Detachable	5,000	910	1,500	1,365	90%	1,200
I	New/Quad	1,700	240	1,800	432	80%	700
J	New/Quad	2,800	380	1,200	456	80%	700
K	New/Quad	4,400	740	1,800	1,332	85%	1,500
L	New/Detachable	6,100	1,250	2,400	3,000	95%	1,400
M	New/Quad	4,500	970	2,400	2,328	90%	1,000
N	New/Quad	4,100	1,220	1,900	2,318	90%	800
Total		47,324	10,613	24,700	19,738		11,400

provide for a major increase in skier capacity, from the existing 1,300 skiers at one time (SAOT) to 9,700 SAOT. In addition, the existing ski lift and trail network at Saddleback Mountain could be enhanced by upgrading existing facilities, widening several existing trails, and constructing several new trails within the boundaries of the existing planned development

subdistrict. These enhancements would add facilities and ski terrain for an additional 1,700 skiers at one time. In total, these improvements could provide for an increase in capacity to approximately 11,400 skiers-at-one-time (SAOT), or roughly nine times the current capacity at Saddleback Mountain. (See Table 4.2.6.)

This substantial level of ski area expansion could be designed and constructed in a manner that provides for a breakdown of skiable terrain that compares reasonably well with the ideal breakdown of terrain for a ski area in the Northeast. Under Sno.engineering's conceptual design for this alternative, the ski area could provide new terrain for beginner, novice, low intermediate, intermediate, and advanced skiers in a ratio that would compare favorably with the industry standard, especially when the novice and low intermediate categories are combined. However, there would be a notable shortage of pure expert terrain. Table 4.2.7 compares the skill level

Table 4.2.7 Saddleback Ski Area, projected classification breakdown by "comfortable carrying capacity" and acreage at full build-out under Alternative #2, from the <u>Saddleback Ski Area</u> <u>Conceptual Development Plan</u>, Sno.engineering, Inc., December 1998

Ability	Number	CCC**	Acreage	CCC**	Acreage	Ideal
Level	of ski	(guests)		Percent	Percent	
	trails					
Beginner	3	740	12.8	8%	4%	5%
Novice	11	2,590	65.9	27%	18%	12%
Low Int.	8	1,220	36.6	12%	10%	18%
Intermediate	22	2,800	121.6	29%	34%	35%
Advanced	21	2,110	107.9	22%	30%	20%
Expert	7	240	12.9	2%	4%	10%
Totals	73***	11,400*	357.7	100%	100%	100%

^{*} includes an additional 1,700 CCC that would be accommodated by upgrading existing ski lifts to industry standards. Downhill capacity on ski trails associated with these lifts is sufficient to provide for this increase.

distributions for ski trails that could be developed at Saddleback Ski Area under Alternative #2 with the skill level distributions for an "ideal" ski area in the Northeast region.

^{**} CCC, or "comfortable carrying capacity," is typically used as a measurement of the total ski area capacity (both uphill and downhill capacity), and is generally considered to be a more reliable measurement of a ski area's capacity than acreage

^{***} includes one trail that provides access to condominiums and parking

Under this scenario, Saddleback Ski Area would become a major resort capable of attracting destination skiers throughout the east. The ski area would be similar in size and capacity to Sugarbush Ski Area in Vermont and Sugarloaf Ski Area in Maine. Although a disproportionate amount of the skiable terrain would be suitable for skiers of lower and middle ability levels, there are examples of successful ski areas (Stratton, Sugarbush, Okemo, and Mount Snow in Vermont, and Bretton Woods in New Hampshire) that have similar skier profiles.

There would be little or no impact on other recreational opportunities in the area. In addition to skiing and hiking, other recreational activities – hunting, fishing, boating, sight-seeing, and snowmobiling – would continue to be popular recreational attractions in the Rangeley Lakes area. ITS 84/89, an existing snowmobile trail that crosses the southeastern portion of the property, would remain open.

<u>Social and economic consequences</u> – The only direct impact associated with Alternative #2 would be a slight decrease in the property tax base in Sandy River Plantation, Madrid, and Redington due to the transfer of property from private to public ownership. This impact would be largely offset by payments under the Payments-in-Lieu-of-Taxes (PILT) program.

The remaining socioeconomic impacts identified in this analysis represent the impacts that could be projected to occur if the National Park Service acquires the lands identified in Alternative #2 and Saddleback Ski Area invests the funds necessary to expand the ski area to the full build-out of the "logical development scenario" under Alternative #2. These social and economic impacts would be secondary impacts, and would be dependent in part on the actions of the owner of Saddleback Ski Area and state and local agencies with jurisdiction over development of the ski area. As noted elsewhere, this socioeconomic analysis is not an appraisal of the property, nor is it an indication of the financial feasibility of pursuing ski area expansion at Saddleback. The comparative analysis at the end of this chapter provides additional information regarding the potential social and economic consequences of this and other alternatives.

It is also important to note that the impacts identified below assume complete certainty of ski area expansion to the maximum degree feasible under this alternative. However, the economic supply and demand factors discussed in the detail in the comparative analysis at the end of this chapter suggest that the likelihood of expansion at Saddleback Ski Area is not certain. Therefore, the impacts described below should not be considered as certain, but rather should be discounted to reflect the uncertainty of expansion.

Under Alternative #2, Saddleback Ski Area could increase its "comfortable carrying capacity" from the current 1,300 skiers at one time (SAOT) to 11,400 SAOT. If Saddleback Ski Area expanded to this capacity, skier-visits would be projected to increase from the current 33,250 annual skier-visits to 146,000 skier-visits (an increase of approximately four-and-one-half times the current visitation) at the end of a ten-year phase-in period. Although this represents a significant increase in visitation, the ski area's utilization rate (11%) would be low by industry standards. (See Appendix D for an explanation of the methodology used in making this projection.)

Table 4.2.8 below shows projected construction costs for potential expansion activity at Saddleback Ski Area under Alternative #2, assuming the ski area builds out to full capacity.

Table 4.2.8 Annual construction costs: potential ski area expansion under Alternative #2

		Construction Spending in \$\$Millions										
•											10 Year	
Phase-In Year	1	2	3	4	5	6	7	8	9	10	Totals	
On-Mountain	\$1.70	\$0.66	\$3.82	\$1.94	\$3.74	\$2.68	\$4.07	\$4.12	\$2.98	\$0.94	\$26.63	
Base Area	\$0.26	\$0.26	\$0.26	\$0.26	\$7.43	\$7.43	\$0.26	\$0.00	\$0.00	\$0.00	\$16.14	
Total Construction	\$1.96	\$0.91	\$4.08	\$2.20	\$11.16	\$10.10	\$4.32	\$4.12	\$2.98	\$0.94	\$42.77	
- Lift Construction	\$1.70	\$0.66	\$1.07	\$0.75	\$1.34	\$1.85	\$2.39	\$1.80	\$1.04	\$0.94	\$13.54	
Local Construction	\$0.26	\$0.26	\$3.01	\$1.45	\$9.82	\$8.25	\$1.93	\$2.32	\$1.95	\$0.00	\$29.23	

Table 4.2.9 below shows projected annual construction jobs that could be created by expansion activity at Saddleback Ski Area, again assuming that the ski area builds out to its full capacity. Employment is shown in Full-Time Equivalents (FTEs). These jobs would cease when the phase-in is complete.

Table 4.2.9 Annual construction jobs: potential ski area expansion under Alternative #2

	Construction Employment in Full-Time Equivalents										
•											10 Year
Phase-In Year	1	2	3	4	5	6	7	8	9	10	'Total
Employment	3	3	32	15	104	87	20	24	21	0	309

Table 4.2.10 shows annual personal income that could be generated by construction activity related to expansion at Saddleback Ski Area under this alternative.

Table 4.2.10 Annual personal income generated by construction for ski area expansion under Alternative #2

	Total Personal Income in \$\$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year 'Total
Employment	\$0.08	\$0.08	\$0.90	\$0.43	\$2.94	\$2.47	\$0.58	\$0.69	\$0.58	\$0.00	\$8.77

Table 4.2.11 shows net increases in employment that could occur at Saddleback Ski Area through the phase-in period under Alternative #2. Employment is shown in FTEs. These employment estimates are based on ski industry values for ski areas of similar size. The number of FTEs in the tenth year would be expected to continue into the future.

Table 4.2.11 Net increases in Saddleback Ski Area employment under Alternative #2

	Net Increase in Resort Employment (FTEs)									
Phase-In Year	1	2	3	4	5	6	7	8	9	10
Net Increase	12	40	72	95	141	220	278	390	434	469

Table 4.2.12 below shows projected annual expenditures by Saddleback Ski Area visitors, both in terms of expenditures at the resort and in the remainder of Franklin County, assuming that the ski area builds out to its full capacity within ten years. The amount of expenditures in the tenth year would be expected to continue into the future.

Table 4.2.12 Expenditures by Saddleback Ski Area visitors under Alternative #2

	Annual Expenditures in \$\$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year Totals
In Resort	\$0.34	\$0.52	\$0.70	\$0.86	\$1.19	\$1.90	\$2.57	\$2.94	\$3.28	\$3.46	\$17.76
Outside Resort	\$0.39	\$0.60	\$0.81	\$0.99	\$1.38	\$2.19	\$2.97	\$3.39	\$3.78	\$3.99	\$20.50
Totals	\$0.73	\$1.12	\$1.52	\$1.85	\$2.57	\$4.09	\$5.54	\$6.33	\$7.06	\$7.46	\$38.27

At the completion of the phase-in period, the economic modeling process indicates that approximately 279 new full-time job equivalents could be created in Franklin County if Saddleback Ski Area were to expand to full build-out capacity under Alternative #2. The economic modeling process projects that an annual total of \$2,496,010 in additional personal income could be created by the end of the tenth year. Table 4.2.13 below shows estimates of employment (FTEs) and personal income that could be generated by the ski area expansion on secondary, indirect, induced, and total employment.

Table 4.2.13 Secondary, indirect, induced and total employment and personal income generated by ski area expansion under Alternative #2

			Annual
At Completion		Employment	Personal Income
of Phase-in:		FTEs	\$Millions
	Secondary	227	\$2.50
	Indirect	23	\$0.40
	Induced	29	\$0.52
		279	\$3.41

Table 4.2.14 shows the migration rate (in households), population increase, and new housing demand that could be generated by ski area expansion under Alternative #2.

Table 4.2.14 Migration, population, and new housing demand under Alternative #2

Migration Impact:	New Jobs	Migration X Rate	Migrant = Households	
	279	0.12	33	
Population Impact:	Migrant Households	Persons Per X Household	Population = Impact	
	33	2.5	84	
Housing Demand:	Migrant Households	New Demand X Rate	Housing = Need	
	33	0.75	25	

Expansion of the ski area consistent with the logical development scenario for Alternative #2 would create substantial increases in additional taxable property and demands for municipal services in the communities in which Saddleback Ski Area operates. If Saddleback Ski Area expands its facilities to the full build-out scenario identified for Alternative #2, property tax payments to Sandy River Plantation can be expected to increase commensurate with the increased valuation of the personal property that is added. In addition, a base terminal and portions of six ski lifts would be added in Dallas Plantation, significantly increasing both the tax base and the need for municipal services. The top portions of two lifts would be located in Redington under Alternative #2. Further analysis would be needed to determine if this expansion would require transfer of lands from the current "tree growth" category to vacant or improved land status. Saddleback Ski Area's property tax payments to Redington would increase slightly.

The substantial increases in ski area visitation under Alternative #2 would necessitate a number of changes in the community. Needs for additional police, fire, and emergency medical services, expanded or new solid waste disposal facilities, and road and highway improvements would become major issues. In addition to the impacts on municipal and county services, it is likely that significant increases in visitation would result in some secondary development in the area – including residential development to accommodate new employees and commercial development to support these new residents. This additional development would, in turn, put additional pressure on municipal and county services.

Consistency with Planning Documents – Alternative #2 would be consistent with planning objectives for protection of "remote resources" along the Appalachian National Scenic Trail, which emphasize acquisition of sufficient interests to "preserve the remote character" and "protect native vegetation, wildlife, and water resources." This alternative also would be consistent with the planning objectives for protection of "significant natural area resources," which emphasize acquisition of sufficient interests "to preserve natural and geologic features, vistas, vegetation, wildlife, and water quality." This alternative would provide for the landowner's existing development and current expansion plans. In addition, a large portion of the undeveloped "saddle bowl" north of the existing ski area would be available for future expansion.

Alternative #2 also would be consistent with the current Maine Land Use Regulation Commission designations for the subject area. The entire 893-acre acquisition area falls within areas designated by LURC as Mountain Areas Protection (P-MA) or Recreation Protection (P-RR) subdistricts. As noted in the analysis of Alternative #1, the primary purpose of the Mountain Areas Protection subdistrict (P-MA) designation is "to regulate certain land use activities in mountain areas in order to preserve the natural equilibrium of vegetation, geology, slop, soil and climate..., to protect water quality, and to preserve mountain areas for their scenic values and recreational opportunities." This alternative also would be fully consistent with the Recreation Protection subdistricts (P-RR) that have been identified to protect the primitive recreational resources of the Appalachian Trail as a national scenic trail and Eddy Pond as a Management Class 6 lake.

Saddleback Ski Area's planned development subdistrict would be excluded from the acquisition area. Ski area expansion outside of the 893-acre acquisition area would require rezoning of some areas currently designated as Mountain Areas Protection (P-MA) and General Management (M-GN) subdistricts.

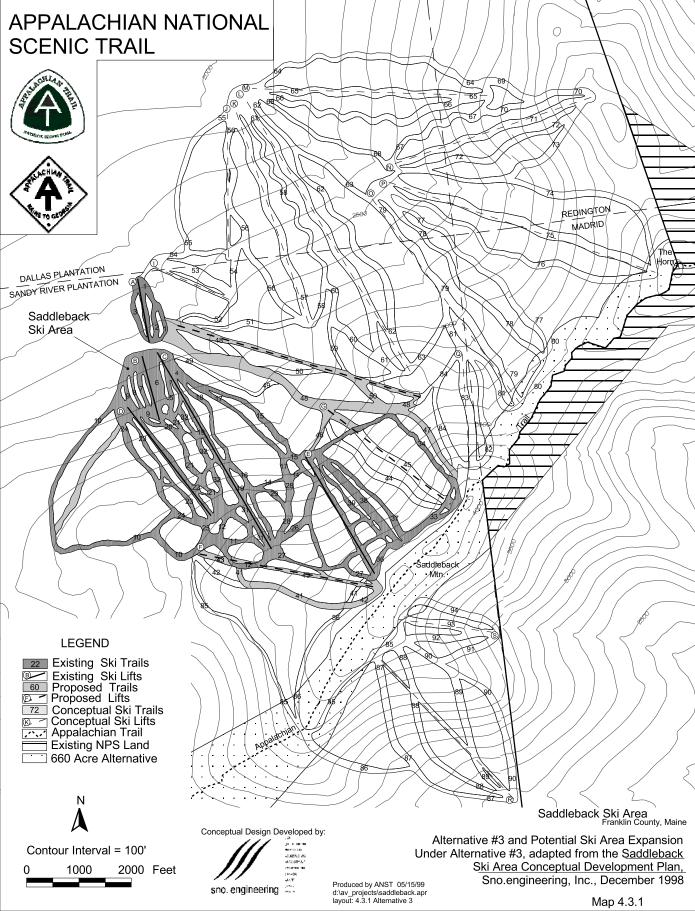
Alternative #2 would be consistent with the Town of Madrid's Woodland/Recreational District zoning for the portion of the property that is within the town boundaries.

Impacts of Alternative #3: Saddleback Ski Area's Proposed Alternative

Under this alternative, the environment of the Appalachian Trail would change significantly from the environment that exists today. The most noticeable changes would occur in the foreground view area as seen from the Appalachian Trail between the summit of Saddleback Mountain and The Horn, but other changes also would be evident.

Sno.engineering developed a "logical development scenario" for ski area expansion for this alternative based on the terms outlined in Saddleback Ski Area's proposed donation. Under Sno.engineering's "logical development scenario" for this alternative, three ski lifts and nine or more associated ski trails would terminate within 325 feet of the Appalachian Trail between the summits of Saddleback Mountain and The Horn at locations identified by Saddleback Ski Area. All would be in clear view from the Appalachian Trail footpath for much of the traverse between the summits. Six more lifts in the saddle bowl would be visible, though all of these lifts would terminate outside or just inside the perimeter of the "visual foreground zone" as seen from the footpath of the Trail. (See Map 4.3.1.)

In addition, cleared corridors for two catwalks would traverse the southwestern shoulder of the mountain and intersect at the crossing of the Appalachian Trail. Ski area development on the southeastern side of the mountain would be visible from the summit of Saddleback Mountain. Water levels in Eddy Pond would fluctuate, with snowmaking storage and withdrawal resulting in variable low water levels during fall and winter months and possibly spring and summer months as well. A 200-foot wide utility right-of-way would provide access for a year-round access road and buried utility lines near Eddy Pond. (See Map 4.3.1.)



These changes would – even if designed and constructed with sensitivity to the scenic values of the Trail – result in substantial and permanent changes to the natural and scenic landscape of the Appalachian Trail across Saddleback Mountain.

Saddleback Ski Area could expand to approximately eleven times its current capacity by constructing the facilities that have been conditionally approved by LURC, upgrading its current facilities to industry standards, and expanding into the "saddle bowl" and the southeastern side of the mountain.

<u>Geology</u>, <u>land forms</u>, <u>and soils</u> – This alternative would not result in any new direct impacts to geology, land forms, or soils, with the exception of minor ongoing erosion caused by continued use of the existing Appalachian Trail footpath and any other pedestrian trails on the mountain.

Impacts to soils would be secondary, and would result not from the National Park Service's action but from future ski area expansion that occurred within the existing planned development subdistrict, the "saddle bowl," across the southwestern shoulder of the mountain, and on the southeast side of the mountain. The most substantial impacts likely would occur at higher elevations on the mountain, where soils are shallow and more vulnerable to disturbance.

When the Maine Land Use Regulation Commission approved Saddleback Ski Area's proposed expansion in 1989 and 1994, they included a stipulation requiring Saddleback Ski Area to conduct "on-site medium intensity soils mapping by a Maine licensed soil scientist which indicates that the soils in the proposed sites are acceptable for the proposed use" prior to construction of the Sundance and Upper Advanced lifts and trails.

Presumably, LURC would impose a similar requirement on any ski area expansion in the "saddle bowl" or on the southeast side of the mountain. According to Sno.engineering, however, the upper elevations of several ski lifts and trails would be located in areas where soils are shallow to non-existent. In particular, the catwalks that would be required to provide access to the southeast side of the mountain and disperse skiers from the tops of several of the ski lifts would require excavation and possible blasting to create a skiable cross-slope.

<u>Visual resources</u> – Alternative #3 would result in significant changes in the visual environment of the Appalachian Trail. Extensive ski area development would occur in the visual foreground and middleground zones as seen from the Appalachian Trail, on both sides of the mountain. In addition to the four lifts already conditionally approved by the Maine Land Use Regulation Commission, eleven new lifts would be visible from the Appalachian Trail. Five of these lifts would be located in the immediate foreground view of the Appalachian Trail, in areas where the visual absorption capacity is "low" and where human-caused alterations to the landscape would be difficult or impossible to conceal. (The U.S. Forest Service's visual resource analysis determined that the landscape of Saddleback Mountain had a "low" visual absorption capacity rating based on low vegetation, shallow soils, and poor re-vegetation potential.)

Long-distance views of the area surrounding Eddy Pond would be altered in the vicinity of two ski "catwalk" crossings, which would intersect each other and cross the footpath of the Appalachian Trail at an elevation of approximately 3,700 feet on the southwestern shoulder of

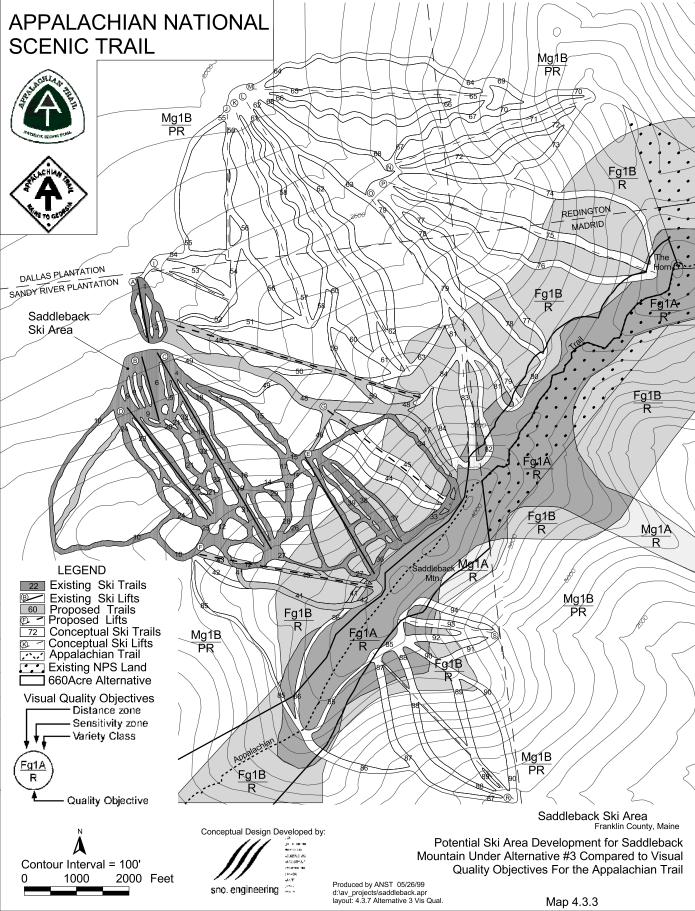
the mountain. Views from and of Eddy Pond would be affected by changes in water levels and clearing within the 200-foot wide right-of-way.

Even with proper mitigation, Alternative #3 would meet only a Visual Quality Objective of "partial retention" between Eddy Pond and the summit of Saddleback Mountain, and a Visual Quality Objective of "modification" for foreground views from the Appalachian Trail between the summit of Saddleback Mountain and The Horn.

According to Sno.engineering, Saddleback Ski Area could construct fifteen new ski lifts and 53 new ski trails under this alternative. Some of this expansion would occur within the boundaries of the existing planned development subdistrict, but most would be located in the "saddle bowl" and on the southeastern slopes of the mountain. Five of the lifts would be located in the visual "foreground zone" of the Appalachian Trail. (See Map 4.3.3.)



Photo-simulation 4.3.2 Photo-simulation of potential ski area development in the "saddle bowl" under Alternative #3 as seen from Saddleback Mountain



In the "saddle bowl," three ski lifts would be starkly and consistently visible from the footpath of the Appalachian Trail. (See Photos 4.3.2, 4.3.4, and 4.3.5.) One lift would terminate within 325 feet of the Appalachian Trail on the northwestern face of Saddleback Mountain; another would terminate approximately 330 feet from the Appalachian Trail on The Horn, and a third would terminate approximately 320 feet from the Appalachian Trail near the "saddle" between the summits of Saddleback Mountain and The Horn. Clearing and excavation to provide for skier unloading and dispersal would require an additional cleared area that would continue 75 to 100 feet uphill of the lift terminal. Each lift would service three to four ski trails, which would fan out and head down the mountain away from the Trail.

Because of their proximity to the footpath of the Appalachian Trail, the ski lifts and clearing for ski trails would be perceived as direct modifications to a presently natural-appearing landscape. Changes in form, line, texture, and color would be apparent. In addition, the visual absorption capacity would be low to very low because of the lack of intervening topography and vegetation, and mitigating measures will have little effect. The resulting change in visual quality would be a change from a Visual Quality Objective of "retention" to a Visual Quality Objective of "modification" for the entire traverse between the summits of Saddleback Mountain and The Horn.



Photo-simulation 4.3.4 Photo-simulation of potential ski area development in the Saddle Bowl under Alternative #3 as seen from The Horn



Photo-simulation 4.3.5 Photo-simulation of potential ski area development near the summit of Saddleback Mountain as seen from the Appalachian Trail in the "saddle" between Saddleback Mountain and The Horn

An additional six lifts would be located in the lower portions of the bowl and on the western slopes of the 3,772-foot peak northwest of The Horn. The impacts associated with the construction of these lifts and the Sundance, Upper Advanced, El Hombre, and No Name Nubble lifts would be identical to Alternative #2.

On the southeastern side of the mountain, two new lifts and nine ski trails would be constructed to provide access to additional expert terrain. At least one of the lifts and several of the ski trails would be visible from the summit of Saddleback Mountain in what is currently an untouched, natural landscape. (See Computer-simulation 4.3.6.)

Two cleared catwalks, with a minimum running surface of 22 feet and a cleared width ranging up to 75 feet in width, would be constructed between the main ski area and the southeastern side of the mountain. These catwalks would cross the Appalachian Trail at an elevation of approximately 3,700 feet on the southwestern shoulder of Saddleback Mountain. Both of the catwalks would be visible from the Appalachian Trail from as far away as Eddy Pond. Hikers would cross the catwalks in the upper elevations of the subalpine spruce-fir forest community. In both cases, the catwalks would appear as road cuts in an otherwise natural landscape. (See Photo 4.3.7.) Sno.engineering's analysis indicated that a substantial cut and fill would be necessary to construct these catwalks across terrain with shallow to non-existent soils. Further,



Computer-simulation 4.3.6 Computer-simulation of potential ski area development on the southeast side of Saddleback Mountain under Alternative #3, as seen from the summit of Saddleback Mountain



Photo-simulation 4.3.7 Photo-simulation of ski trail crossings as seen from the Appalachian Trail on the southwestern ascent of Saddleback Mountain

Sno.engineering concluded that constructing the running surface and cross-grade of the catwalks would be difficult, if not impossible, to justify economically.

Many of these alternations to the landscape would take place within the immediate foreground of the Appalachian Trail, in locations clearly visible from the Trail where changes could not be mitigated to any significant degree. As a result, these changes would – even if designed and constructed with sensitivity to the scenic values of the Appalachian Trail – dominate the natural landscape.

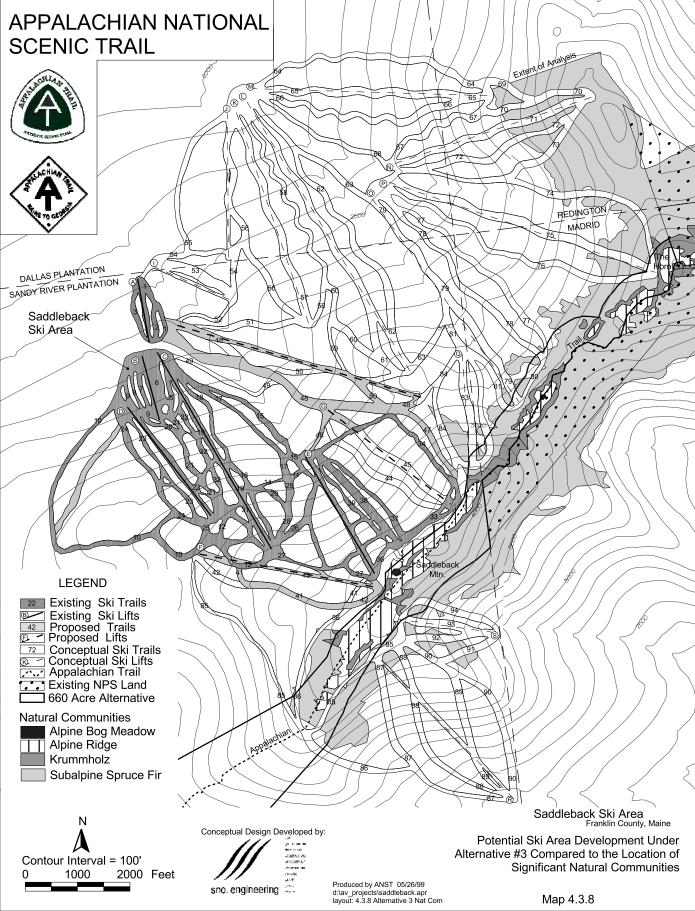
<u>Vegetation and Natural Communities</u> – This alternative would preserve virtually all of the extant alpine ridge, alpine bog meadow, and krummholz communities on Saddleback Mountain. Approximately 76% of the subalpine spruce-fir forest community within the study area would remain intact. In addition, a corridor of spruce slope forest and early successional forest ranging in width from 1,000 feet to 2,500 feet at lower elevations on the southwestern slope of Saddleback Mountain would be protected from most forms of development. (See Map 4.3.8.)

The 58-acre alpine ridge community and 46-acre krummholz community would be protected, as would approximately 486 acres of the 638-acre subalpine spruce-fir forest community in the study area. Two small alpine bog meadow communities – one near the summit of Saddleback and another in the "saddle" between the summit and The Horn – would be permanently protected.

As with other alternatives, direct impacts to these important natural communities would be associated with recreational foot traffic off of existing trails, which may result in trampling, dislodging of individual plants within a community, or erosion or compaction of soils upon which these plants are dependent. Trail-widening, which occurs in areas where the treadway is wet or muddy, also could affect these plant communities. These impacts, which are comparatively minor in scope, can be effectively mitigated through proper trail design, trail maintenance, and educational programs for visitors.

Secondary impacts associated with ski area development would result in clearing of vegetation both inside and outside the 660-acre corridor. Five areas inside the corridor would be cleared for construction of five lift terminals and as many as 15 associated ski trails. In addition, two catwalks totaling 9,300 feet in length would be cleared to provide access between the main ski area and development on the southeastern side of the mountain. Vegetation within the 200-foot reserved right-of-way also would be cleared for expansion of the access road near Eddy Pond and construction of snowmaking facilities and utility lines. Development also would occur outside the 660-acre corridor.

Constructing the facilities conditionally approved by LURC, upgrading the current facilities to industry standards, and expansion into the "saddle bowl" and on the southeastern side of the mountain would result in approximately 428 acres of additional clearing. This expansion would not directly affect alpine or krummholz communities, although clearing of an area for skier offloading and dispersal above the three lifts in the "saddle bowl" would require removing vegetation up to the perimeter of the krummholz community.



Approximately 66 acres of subalpine spruce-fir forest community would be cleared for the upper elevation lifts and trails, and another 86 acres would be fragmented from the community. The remaining clearing for other lifts and trails would take place at lower elevations on the mountain in spruce slope and early successional forest types.

In sum, construction of ski lifts and associated ski trails under Alternative #3 would probably have little adverse impact on alpine and krummholz communities, but would have some unavoidable adverse impact on the subalpine spruce-fir forest community.

Rare Plant Species – This alternative would provide permanent protection for known populations of six rare plant species, which are scattered about the alpine ridge and alpine bog meadow communities. These six plant species include *Carex bigelowii* (Bigelow's sedge), *Diapensia lapponica* (diapensia), *Geocaulon lividum* (northern comandra), *Hierochloe alpina* (alpine holy grass), *Minuartia groenlandica* (mountain sandwort), and *Vaccinium boreale* (sweet hurts). No known federally listed threatened or endangered plant species would be affected by this alternative.

Direct impacts on known rare plant species would be similar to Alternatives #1 and #2. These impacts, which are currently minor in scope, can be effectively mitigated through proper trail design, reconstruction, and maintenance, and educational programs for visitors.

Several other rare, threatened, and endangered plant species are known to occur in alpine habitats in western Maine (see Chapter 3), but it is not known whether these species are present or absent on Saddleback Mountain. Impacts to these species cannot be measured until detailed field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

<u>Rare Animal Species</u> – Any impacts to rare animal species would be secondary, and would occur as a result of ski area development both outside and inside the protected Appalachian Trail corridor. The most likely impacts to Bicknell's thrush (*Catharus Bicknellii*) would occur as a result of removal or fragmentation of the subalpine spruce-fir forest community, which is its primary breeding habitat.

Approximately 486 acres of the 638-acre subalpine spruce-fir forest community in the study area would remain intact. (See Map 4.3.8.) Of the remaining 152 acres, approximately 66 acres would be cleared for ski lifts and trails and 86 would be fragmented from the primary community by ski area development in the "saddle bowl," on the southwestern ridgeline of the mountain, on the southeastern slopes of the mountain, and near the summit of the 3,772-foot peak north of The Horn. Though any potential reduction in overall breeding habitat is likely to have a corresponding adverse impact on total population, the actual effect of this amount of habitat reduction on the total *Catharus bicknellii* population on Saddleback Mountain is unknown.

As with other alternatives, impacts to four other animal species – Microtus chrotorrhinus (yellow-nosed vole), Piciodes tridactylus (northern three-toes woodpecker), Sorex dispar (long-tailed shrew), and Synaptomys borealis (northern bog-lemming) – cannot be measured until field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

No known federally listed threatened or endangered animal species would be affected by this alternative.

<u>Wildlife</u> – Within the 660-acre donated area, approximately 75 acres of subalpine spruce-fir forest and spruce slope forest communities would be cleared for ski trails and lifts, and another 101 acres would be fragmented. Fluctuations in water levels and potential changes in water quality associated with storage and withdrawal of water from Eddy Pond for snowmaking purposes would adversely affect salmonids and other aquatic life forms in the pond, particularly if drawdowns occur during winter months and deeper areas of the pond freeze.

<u>Water resources</u> – This alternative would provide for development of Eddy Pond for snowmaking purposes. The headwaters of several streams, including Haley Brook and Conant Stream, would be affected to some degree by ski area development.

Ski area expansion could result in clearing up to 428 additional acres, with corresponding increases in run-off and peak flows during storm events. Erosion and sedimentation control measures would help mitigate impacts on streams during construction. Ski area expansion into the "saddle bowl" and on the southeastern side of the mountain would require clearing of approximately 66 acres of high-elevation spruce-fir forest and 362 acres of spruce slope and mixed hardwood forest, which could potentially increase stream temperatures and decrease dissolved oxygen levels in nearby streams.

Snowmaking coverage on 92% of the ski trails at full build-out under this alternative would require approximately 561.7 million gallons of water, or 1724.0 acre-feet of water. Saddleback Lake would be the logical source for most of this water.

Saddleback Ski Area also would dam and use Eddy Pond as a storage reservoir for snowmaking purposes. Damming, storing, and withdrawing water from Eddy Pond, which has been designated as a "water quality limited lake" by the Maine Land Use Regulation Commission, could have substantial impacts on water quality in the pond. Drawdowns and changes in water levels likely would alter chemical and temperature characteristics of the pond. Importing water from other sources could alter nutrient, chemical, and temperature characteristics of Eddy Pond, as well as potentially import nuisance organisms.

<u>Cultural resources</u> – This alternative would ensure permanent protection of the existing footpath of the Appalachian National Scenic Trail, which has been identified by the Maine Historic Preservation Commission as a potentially significant historic resource that should be evaluated for nomination to the National Register of Historic Places. However, the setting of the Trail would undergo substantial changes, particularly between the summits of Saddleback Mountain and The Horn.

Alternative #3 would not affect any known archaeological resources. According to the Maine Historic Preservation Commission, the probability of significant cultural resources (other than the Appalachian Trail) being present in the study area is low. However, no detailed field surveys have been conducted.

<u>Recreation</u> – This alternative would result in substantial changes in the recreational experience that is currently available along this section of the Appalachian National Scenic Trail. Saddleback Mountain, like a number of other areas in Maine, would continue to provide visitors with dramatic 360° views of the surrounding landscape and intimate views of subalpine and alpine vegetation and the evidence of geologic and climatologic extremes. However, manmade intrusions into this environment would be more dominant, even to the most casual observer. The sense of remoteness, solitude, and predominance of the natural world that currently exist would be compromised by man-induced contrasts that would be evident for most, if not all, of the traverse of Saddleback Mountain, from Eddy Pond to The Horn.

The road crossing near Eddy Pond would be improved substantially and used for access for ski area management. The environment and hiking experience in and around Eddy Pond would be affected by increased traffic on the access road. In addition, utility lines, snowmaking pipelines into and out of Eddy Pond, and the catwalk crossing of the Appalachian Trail near treeline on the southwestern shoulder of the mountain would all intrude on the natural environment of the Trail. Intermittent views of the clearing for the catwalk crossings on the shoulder of the mountain also would intrude on the current sense of solitude and remoteness provided by this section of the Appalachian Trail.

The four lifts (the Sundance, Upper Advanced, El Hombre, and No Name Nubble lifts) and six ski trails proposed by Saddleback Ski Area and conditionally approved by the Maine Lane Use Regulation Commission in 1989 and 1994 could be constructed. In addition, the existing facilities could be upgraded to modern industry standards. Impacts of both of these actions are described in Alternative #1.

North of the summit, substantial new changes in the landscape would affect Appalachian Trail visitors' sense of remoteness and solitude. The sense of predominance of the natural world would give way to a constant awareness of manmade features, particularly the ski lifts and trails immediately proximate to the Appalachian Trail.

Saddleback Ski Area would be able to undertake significant expansion. In addition to constructing the four lifts conditionally approved by LURC and upgrading its current facilities, Saddleback Ski Area could expand on both sides of the mountain. According to Sno.engineering, Inc., under this alternative Saddleback Ski Area could construct an additional 14 lifts and 53 trails covering an additional 428 acres. In total, the ski area would cover approximately 1,943 acres of land, with 19 lifts, 94 trails, and 524 acres of cleared area.

Table 4.3.9 Saddleback Ski Area, projected lift capacity at full build-out under Alternative #3, from the <u>Saddleback Ski Area Conceptual Development Plan</u>, Sno.engineering, Inc., December 1998

Map	Name/Туре	Length (ft.)	Vertical (ft.)	Hourly Capacity (persons/ hour)	VTF/ Hour (000)	Utilization Rate	CCC (guests)
A	Buggy/Baby Triple	1,285	164	1,200	197	85%	300
В	Surrey/Quad	1,397	228	2,200	502	85%	500
С	Stagecoach/Quad	4,540	1,130	2,200	2,486	90%	1,000
D	Pony Express/Quad	2,380	647	1,200	776	90%	500
Е	Wells Fargo/Quad	2,622	974	1,800	1,753	90%	500
F	Sundance/Quad	3,500	750	1,300	975	90%	600
G	Advanced/Quad	3,000	1,010	1,800	1,818	90%	700
Н	Nubble/Detachable	5,000	910	1,500	1,365	90%	1,200
I	New/Quad	1,700	240	1,800	432	80%	700
J	New/Quad	2,800	380	1,200	456	80%	700
K	New/Quad	4,400	740	1,800	1,332	85%	1,500
L	New/Detachable	6,100	1,250	2,400	3,000	95%	1,400
M	New/Quad	4,500	970	2,400	2,328	90%	1,000
N	New/Quad	4,100	1,220	1,900	2,318	90%	800
О	New/Detachable*	5,000	1,040	2,400	2,496	95%	1,100
P	New/Detachable*	5,600	1,460	1,800	2,628	95%	1,100
Q	New/Quad	2,100	730	1,500	1,095	90%	300
R	New/Quad*	3,800	1,360	1,300	1,768	90%	400
S	New/Quad*	1,800	710	1,200	852	90%	200
Total		65,624	15,913	32,900	28,577		14,500

^{*} see discussion on page 4-46 regarding potential limitations for these lifts

The development in the 'saddle bowl' area could be interconnected to the existing ski area, but the interconnection with development on the southeast side would require two catwalks extending almost a mile in each direction. (See Map 4.3.1.)

The construction of the facilities that Saddleback Ski Area has received conditional approval for and the use of the expansion terrain available under Alternative #3 would provide for a major increase in skier capacity, from its existing capacity of 1,300 skiers at one time (SAOT) to 12,800 SAOT. In addition, Saddleback could upgrade its existing facilities to current industry standards and provide for an additional 1,700 SAOT. In total, these improvements could provide for an increase in capacity to approximately 14,500 skiers-at-one-time, or roughly eleven times the current capacity at Saddleback Mountain. (See Table 4.3.9.)

This substantial level of ski area expansion could be designed and constructed in a manner that provides a breakdown of skier terrain that compares favorably with the ideal breakdown of terrain for a ski area in the Northeast. However, according to Sno.engineering, the emphasis on advanced and expert terrain would result in corresponding shortages in the important low intermediate and intermediate categories, which is usually considered to be a drawback to a family-oriented ski area such as Saddleback. The chart below compares the skill level distributions that could be developed at Saddleback Ski Area with the skill level distributions for an "ideal" ski area in the Northeast region.

Table 4.3.10 Saddleback Ski Area, projected classification breakdown by "comfortable carrying capacity" and acreage at full build-out under Alternative #3, from the <u>Saddleback Ski Area</u> <u>Conceptual Development Plan</u>, Sno.engineering, Inc., December 1998

Ability Level	Number	CCC**	Acreage	CCC**	Acreage	Ideal
	of ski	(guests)		Percent	Percent	
	trails					
Beginner	3	740	12.8	6%	2%	5%
Novice	11	2,590	65.9	20%	13%	12%
Low Int.	8	1,220	36.6	10%	7%	18%
Intermediate	27	3,580	147.3	28%	28%	35%
Advanced	25	3,620	165.7	28%	32%	20%
Expert	19	1,050	95.3	8%	18%	10%
Totals	94***	14,500*	523.6	100%	100%	100%

^{*} includes an additional 1,700 CCC that would be accommodated by upgrading existing ski lifts to industry standards. Downhill capacity on ski trails associated with these lifts is sufficient to provide for this increase.

^{**} CCC, or "comfortable carrying capacity," is typically used as a measurement of the total ski area capacity (both uphill and downhill capacity), and is generally considered to be a more reliable measurement of a ski area's capacity than acreage

^{***}includes one trail that provides access to condominiums and parking

Under this scenario, Saddleback Ski Area would become a major resort capable of attracting destination skiers throughout the east. The ski area would be similar in size and capacity to Killington in Vermont and Sunday River in Bethel, Maine. However, Sno.engineering's analysis also indicated that Saddleback Ski Area would encounter a number of physical limitations and environmental concerns with this level of expansion. Though it reserved final recommendations until a field inspection could be conducted, Sno.engineering was particularly concerned with construction of ski area facilities on the southeast side of the mountain and in the highest elevations of the "saddle bowl."

Sno.engineering concluded that the top terminals of four of the upper five lifts would require cutting catwalk trails (skier roads) across grades ranging from 35% to 50%, and that development of the southeast side would require construction of approximately 9,300 linear feet of catwalk trails to interconnect the area with the main part of the ski area. According to Sno.engineering, the catwalks would traverse across slopes steep enough to require major cut and fill operations in order to provide a 20' to 25' wide skiable surface. These catwalks also would require construction "on upper elevations of the mountain where soil cover is either nonexistent or at best minimal." (Sno.engineering also noted that if the entire running surface were to be constructed out of snow instead of cut and fill, the required annual snowmaking capability would be difficult, if not impossible, to justify from an economic standpoint.) Sno.engineering also raised concerns about the practicality of developing ski trails on the southeastern slopes of the mountain. Based on their inspection of aerial photographs and detailed map information, they identified ledge outcroppings, shallow to non-existent soil cover, limited access, southeastern exposure, and the physical and financial feasibility and environmental impact of constructing 9,300 feet of catwalk as potentially major drawbacks to development of the southeastern side of the mountain.

There would be little or no impact on other recreational opportunities in the area. In addition to skiing and hiking, other recreational activities – hunting, fishing, boating, sight-seeing, and snowmobiling – would continue to be popular recreational attractions in the Rangeley Lakes area. ITS 84/89, an existing snowmobile trail that crosses the southeastern portion of the property, would remain open.

<u>Social and Economic Consequences</u> – The only direct impact associated with Alternative #3 would be a slight decrease in the property tax base in Sandy River Plantation and Madrid, due to the transfer of property from private to public ownership. This impact would be largely offset by payments under the Payments-in-Lieu-of-Taxes (PILT) program.

The remaining socioeconomic impacts identified in this analysis represent the impacts that could be projected to occur if the National Park Service acquires the lands identified in Alternative #3 and Saddleback Ski Area invests the funds necessary to expand the ski area to the full build-out of the "logical development scenario" under Alternative #3. These social and economic impacts would be secondary impacts, and would be dependent in part on the actions of the owner of Saddleback Ski Area and state and local agencies with jurisdiction over development of the ski area. As noted elsewhere, this socioeconomic analysis is not an appraisal of the property, nor is it an indication of the financial feasibility of pursuing ski area expansion at Saddleback. The

comparative analysis at the end of this chapter provides additional information regarding the potential social and economic consequences of this and other alternatives.

It is also important to note that the impacts identified below assume complete certainty of ski area expansion to the maximum degree feasible under this alternative. However, the economic supply and demand factors discussed in the detail in the comparative analysis at the end of this chapter suggest that the likelihood of expansion at Saddleback Ski Area is not certain. Therefore, the impacts described below should not be considered as certain, but rather discounted to reflect the uncertainty of expansion.

Under Alternative #3, Saddleback Ski Area could increase its capacity from the current 1,300 skiers at one time (SAOT) to 14,500 SAOT. Under this scenario, skier-visits would be projected to increase from the current 33,250 annual skier-visits to 230,000 skier-visits (an increase of approximately seven times the current visitation) at the end of a ten-year phase-in period. Although this represents a significant increase in visitation, the ski area's utilization rate (13%) would be low by industry standards. (See Appendix D for an explanation of the methodology used in making this projection.)

Table 4.3.11 below shows projected construction costs for expansion activity at Saddleback under Alternative #3, assuming the ski area builds out to its full capacity.

Table 4.3.11 Annual construction costs: potential ski area expansion under Alternative #3

		Construction Spending in \$\$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year Totals	
On-Mountain	\$1.70	\$4.16	\$2.26	\$4.40	\$3.65	\$4.04	\$4.38	\$4.31	\$7.23	\$4.89	\$41.02	
Base Area	\$0.34	\$0.34	\$0.34	\$0.34	\$9.75	\$9.75	\$0.34	\$0.00	\$0.00	\$0.00	\$21.19	
Total Construction	\$2.04	\$4.49	\$2.60	\$4.74	\$13.40	\$13.79	\$4.72	\$4.31	\$7.23	\$4.89	\$62.21	
- Lift Construction	\$1.70	\$1.41	\$1.07	\$2.73	\$1.17	\$2.39	\$1.68	\$1.98	\$4.07	\$1.45	\$19.63	
Local Construction	\$0.34	\$3.09	\$1.53	\$2.01	\$12.24	\$11.40	\$3.04	\$2.33	\$3.16	\$3.45	\$42.58	

Table 4.3.12 below shows projected annual construction jobs that could be created by expansion activity at Saddleback Ski Area, again assuming that the ski area builds out to it full capacity. Employment is shown in Full-Time Equivalents (FTEs). These jobs would cease when the phase-in is complete.

Table 4.3.12 Annual construction jobs: potential ski area expansion under Alternative #3

		Construction Employment in Full-Time Equivalents									
Dhara In Wasa	1	2	2	4	-		7	0	0	10	10 Year
Phase-In Year	1		3	4	3	6	/	8	9	10	<u>"Total</u>
Employment	4	33	16	21	130	121	32	25	34	37	454

Table 4.3.13 shows annual personal income that could be generated by construction activity related to expansion at Saddleback Ski Area under this alternative.

Table 4.3.13 Annual personal income generated by construction for ski area expansion under Alternative #3

		Total Personal Income in \$\$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	'Total	
Employment	\$0.10	\$0.93	\$0.46	\$0.61	\$3.70	\$3.45	\$0.92	\$0.70	\$0.96	\$1.04	\$12.88	

Table 4.3.14 below shows net increases in employment that could occur at Saddleback Ski Area through the phase-in period under Alternative #3. Employment is shown in FTEs. These employment estimates are based on ski industry values for ski areas of similar size. The number of FTEs in the tenth year would be expected to continue into the future.

Table 4.3.14 Net increases in Saddleback Ski Area employment under Alternative #3

		Net Increase in Resort Employment (FTEs)									
Phase-In Year	1	2	3	4	5	6	7	8	9	10	
Net Increase	12	52	89	168	249	359	403	482	578	605	

Table 4.3.15 shows projected annual expenditures by Saddleback Ski Area visitors, both in terms of expenditures at the resort and in the remainder of Franklin County, assuming that the ski area builds out to its full capacity within ten years. The amount of expenditures in the tenth year would be expected to continue into the future.

Table 4.3.15 Expenditures by Saddleback Ski Area visitors under Alternative #3

		Annual Expenditures in \$\$Millions										
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year Totals	
In Resort	\$0.61	\$0.92	\$1.19	\$1.50	\$2.11	\$3.31	\$4.53	\$5.11	\$5.73	\$6.03	\$31.06	
Outside Resort	\$0.71	\$1.06	\$1.38	\$1.73	\$2.44	\$3.82	\$5.23	\$5.90	\$6.61	\$6.96	\$35.84	
Totals	\$1.32	\$1.98	\$2.57	\$3.23	\$4.55	\$7.13	\$9.76	\$11.02	\$12.34	\$13.00	\$66.90	

At the completion of the phase-in period, the economic modeling process indicates that approximately 487 new full-time job equivalents could be created in Franklin County if Saddleback Ski Area were to expand to full build-out capacity under Alternative #3. The economic modeling process projects that an annual total of \$4,351,454 in additional personal income could be created by the end of the tenth year. Table 4.3.16 below shows estimates of employment (FTEs) and personal income that could be generated by the ski area expansion on secondary, indirect, induced, and total employment.

Table 4.3.16 Secondary, indirect, induced and total employment and personal income generated by ski area expansion under Alternative #3

			Annual
At Completion		Employment	Personal
of Phase-in:		FTEs	Income
	Secondary	396	\$4.35
	Indirect	39	\$0.69
	Induced	51	\$0.90
		487	\$5.94

Table 4.3.17 below shows the migration rate (in households), population increases, and new housing demand that could be generated by ski area expansion under Alternative #3.

Table 4.3.17 Migration, population, and new housing demand under Alternative #3

Migration Impact:	New Jobs 487	Migration X Rate	Migrant = Households 58		
Population Impact:	Migrant Households 58	Persons Per X Household 2.5	Population = Impact		
Housing Demand:	Migrant Households 58	New Demand X Rate 0.75	Housing = Need 44		

Expansion of the ski area consistent with the logical development scenario for Alternative #3 would create substantial increases in additional taxable property and demands for municipal services in the communities in which Saddleback Ski Area operates. If Saddleback Ski Area expands its facilities to the full build-out scenario identified for Alternative #3, property tax payments to Sandy River Plantation can be expected to increase commensurate with the increased valuation of the personal property that is added. In addition, a base terminal and portions of eight ski lifts would be added in Dallas Plantation, significantly increasing both the tax base and the need for municipal services. The top portions of two lifts would be located in Redington and the top portion of two other lifts would be located in Madrid under Alternative #3. Further analysis would be needed to determine if this expansion would require transfer of lands from the current "tree growth" category to vacant or improved land status. Further map study will be required to determine if ski area expansion in Redington and Madrid would require the transfer of land from the lower valuation method of the "tree growth" category to vacant or improved land status. Saddleback Ski Area's property tax payments to Redington and Madrid would increase slightly.

The substantial increases in ski area visitation under Alternative #3 would necessitate a number of changes in the community. Needs for additional police, fire, and emergency medical services, expanded or new solid waste disposal facilities, and road and highway improvements would become major issues. In addition to the impacts on municipal and county services, it is likely that significant increases in visitation would result in some secondary development in the area – including residential development to accommodate new employees and commercial development to support these new residents. This additional development would, in turn, put additional pressure on municipal and county services.

Consistency with Planning Documents – Alternative #3 would not be consistent with planning objectives for protection of "remote resources" along the Appalachian National Scenic Trail, which emphasize acquisition of sufficient interests to "preserve the remote character" and "protect native vegetation, wildlife, and water resources." This alternative also would be inconsistent with the planning objectives for protection of "significant natural area resources," which emphasize acquisition of sufficient interests "to preserve natural and geologic features, vistas, vegetation, wildlife, and water quality." This alternative would provide for the landowner's existing development and current expansion plans, as well as any conceivable future expansion of the ski area.

Alternative #3 would reserve to Saddleback Ski Area numerous rights that would be inconsistent with current designations by LURC as Mountain Areas Protection (P-MA) and Recreation Protection (P-RR) subdistricts. The primary purpose of the Mountain Areas Protection subdistrict (P-MA) designation is "to regulate certain land use activities in mountain areas in order to preserve the natural equilibrium of vegetation, geology, slop, soil and climate..., to protect water quality, and to preserve mountain areas for their scenic values and recreational opportunities." Dispersed recreational activities such as hiking are considered fully compatible with this subdistrict; intensive recreational developments such as ski areas would require rezoning. The proposed catwalk crossing of the Appalachian Trail also would be inconsistent with the Recreation Protection subdistrict (P-RR) that has been identified to protect the primitive recreational resource of the Appalachian Trail as a national scenic trail. In addition, the

proposed use of Eddy Pond for snowmaking purposes would conflict with both the Recreation Protection subdistrict (P-RR) surrounding Eddy Pond and its designation as a Management Class 6 lake.

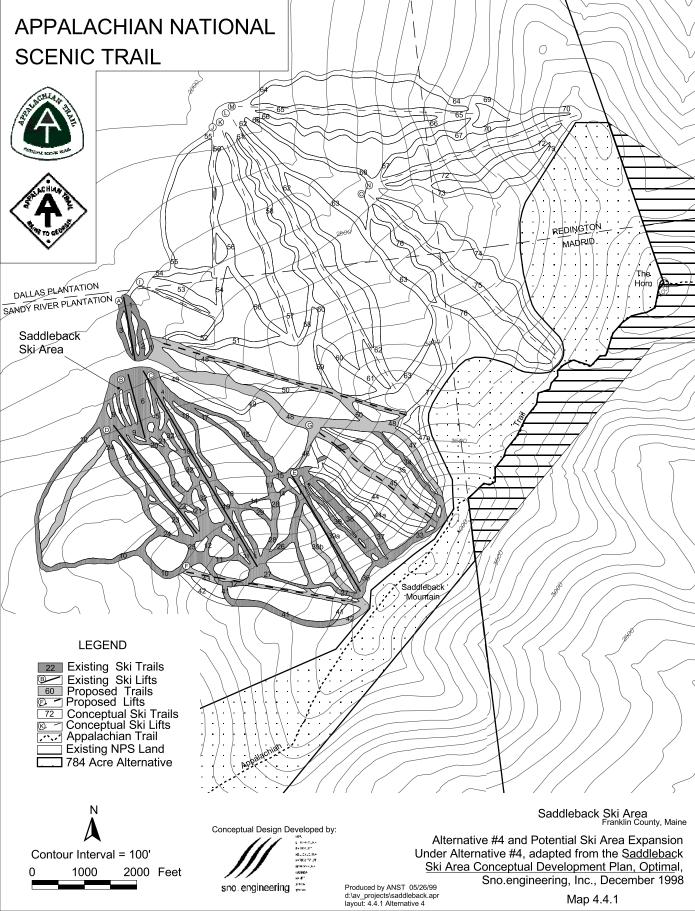
However, Saddleback Ski Area could apply for and the Maine Land Use Regulation Commission could approve rezoning of substantial portions of the existing Mountain Areas Protection subdistrict (P-MA) and the Recreation Protection subdistrict (P-RR) to permit ski area expansion to occur. In order to expand its operations into the "saddle bowl" and the southeast side of the mountain, Saddleback Ski Area would be required to apply to LURC for rezoning from the current protection zoning (P-MA) to a development zone (D-PD), as well as apply to the Maine Department of Environmental Protection (DEP) for a Site Law Permit and to the Town of Madrid for a special use exception from the current Woodland/Recreational District zone. The current Protection subdistricts surrounding the Appalachian Trail and Eddy Pond also would require rezoning to permit ski trails to cross the Appalachian Trail and use of Eddy Pond for snowmaking.

Impacts of Alternative #4: Optimal Ski Area Development Alternative Developed by Sno.engineering

Under this alternative, the natural environment of the Appalachian Trail would remain much as it is today. Some changes would occur in the visual environment of the Trail. With two notable exceptions, however, these changes would take place outside the foreground view area as seen from the Appalachian Trail. Most of these changes would – if designed and constructed with sensitivity to the scenic values of the Trail – be subordinate to the natural features of the landscape.

Saddleback Ski Area could construct the El Hombre, No Name Nubble, Sundance, and Upper Advanced lifts. Saddleback Ski Area also could upgrade its current facilities to modern industry standards, and expand into the lower elevations of the "saddle bowl," the area west of The Horn, and in the "saddle" up to approximately 3,500 feet in elevation in what Sno.engineering considers to be an optimal design for expansion of the ski area. By doing so, the ski area could expand to approximately ten times its current capacity. However, the ski area would not be able to expand its operations into the highest elevations of the "saddle bowl" or onto the southeast side of the mountain in areas that Sno.engineering believes are unsuited for ski development and where impacts to soils, vegetation, rare plant and animal communities, and other resource values would be more substantial. (See Map 4.4.1.)

<u>Geology</u>, land forms, and <u>soils</u> – This alternative would not result in any new direct impacts to geology, land forms, or soils, with the exception of minor ongoing erosion caused by continued use of the existing Appalachian Trail footpath and any other pedestrian trails on the mountain. Fragile soils at upper elevations on the mountain would be protected from all other forms of disturbance.



The only impacts to soils would result not from the National Park Service's action but from construction of new ski lifts and trails at Saddleback Ski Area within the limits of the ski area's planned development subdistrict and in the "saddle bowl." Most impacts would be limited to lower and middle elevations of the mountain, where soils are deeper and less vulnerable to disturbance. Some impacts to higher-elevation soils would occur as a result of new ski trails (in addition to those that have already been approved) being constructed within the boundaries of the planned development subdistrict.

Presumably, LURC would impose a requirement on Saddleback Ski Area for any high-elevation ski area expansion similar to the conditions imposed as part of LURC's conditional approval of the Upper Advanced and Sundance lifts in 1989. As a result, this alternative would have limited overall impact on soils.

<u>Visual resources</u> – Alternative #4 would maintain much of the existing visual landscape between Eddy Pond and the summit of Saddleback Mountain, but some substantial visual impacts would occur in the immediate foreground of the Appalachian Trail between the summit of Saddleback Mountain and The Horn. In particular, one lift could be constructed within 350 feet of the Trail, and several ski trails could be constructed within the foreground zone as seen from the Trail. Extensive ski area development also could occur in the visual middleground zone as seen from the Appalachian Trail. Long-distance and close-range views of the area surrounding Eddy Pond, and the southeast side of Saddleback Mountain would be preserved.

With proper mitigation, Alternative #4 would meet a Visual Quality Objective of "retention" for the portion of the Appalachian Trail between Eddy Pond and the summit of Saddleback Mountain. Because of the lift ascending to the "saddle" and the ski trail following the ridgeline from the summit of Saddleback to No Name Nubble, only a Visual Quality Objective of "modification" could be attained for the portion of the Appalachian Trail between the summits of Saddleback Mountain and The Horn. (See Map 4.4.2 and Photo-simulations 4.4.3 and 4.4.4.)

The changes in the existing landscape would be associated with the construction of ski area facilities outside the area of the proposed acquisition area. Of these facilities, three – the Sundance lift, the Upper Advanced lift, and a lift that would ascend up to within 350 feet of the Appalachian Trail as it passes through the "saddle" – would intrude into the "visual foreground zone" of the Appalachian Trail. The upper terminal for the No Name Nubble lift also would be located just within the foreground zone.

Impacts associated with the construction of the Sundance and Upper Advanced lifts would be similar to Alternative #1. However, one of the new expert ski trails proposed by Sno.engineering would descend from the Upper Advanced lift on the ridgeline west of the summit of Saddleback Mountain. This ski trail would be clearly visible from The Horn. (See Photo-simulation 4.4.4.)

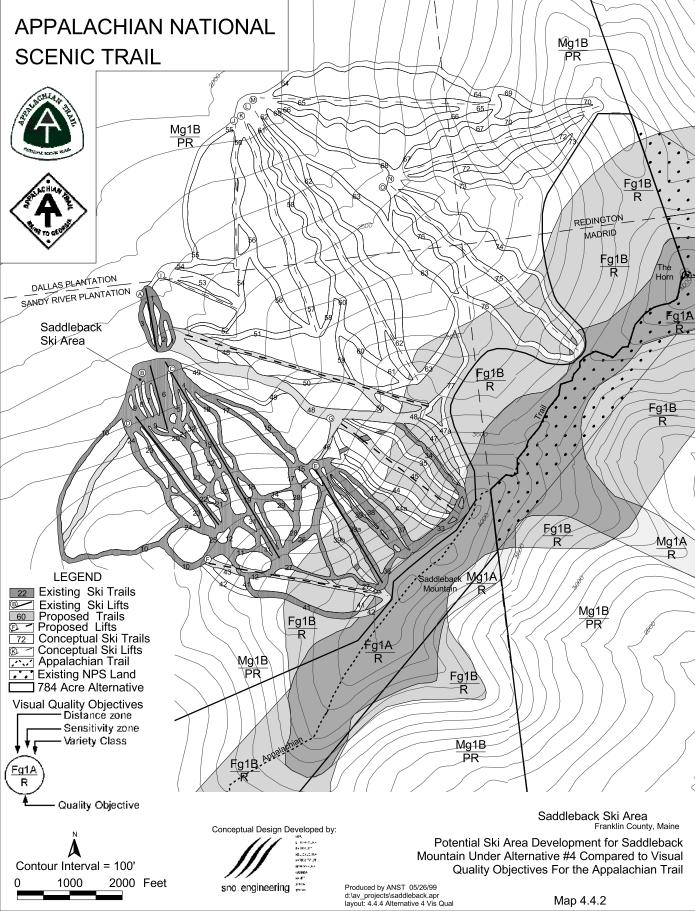




Photo-simulation 4.4.3 Photo-simulation of potential ski area development in the "saddle bowl" under Alternative #4 as seen from the Appalachian Trail on Saddleback Mountain

Other changes would be evident if Saddleback Ski Area expanded into the "saddle bowl" and the slopes of the 3,772-foot peak northwest of The Horn. According to Sno.engineering, Saddleback Ski Area could construct seven new ski lifts and 36 new ski trails in the "saddle bowl" under this alternative. Under Sno.engineering's "logical development scenario" for Alternative #4, two lifts would be built on the westerly slopes of the 3,772-foot peak located northwest of The Horn, one lift would terminate on the west side of No Name Nubble, and three other lifts would be built at lower elevations northwesterly of No Name Nubble. A seventh lift would ascend to a point just below the "saddle," within 350 feet of the Appalachian Trail. (See Photo-simulation 4.4.4.)

Mitigating measures, such as feathering of vegetation on the edges of the ski trails, leaving islands of vegetation, and other design features would help to mitigate some visual impacts, particularly impacts associated with facilities in the visual middleground zone as seen from the Appalachian Trail.

<u>Vegetation and Natural Communities</u> – This alternative would preserve virtually all of the extant alpine ridge, alpine bog meadow, and krummholz communities on Saddleback Mountain, as well as a 2,000-foot wide band of spruce slope forest and early successional forest at lower elevations. In addition, approximately 93% of the subalpine spruce-fir forest community within the study area would remain intact. A 2,000-foot wide band of spruce slope forest and early successional forest at lower elevations on the southwestern slope of Saddleback Mountain would be protected. (See Map 4.4.5.)



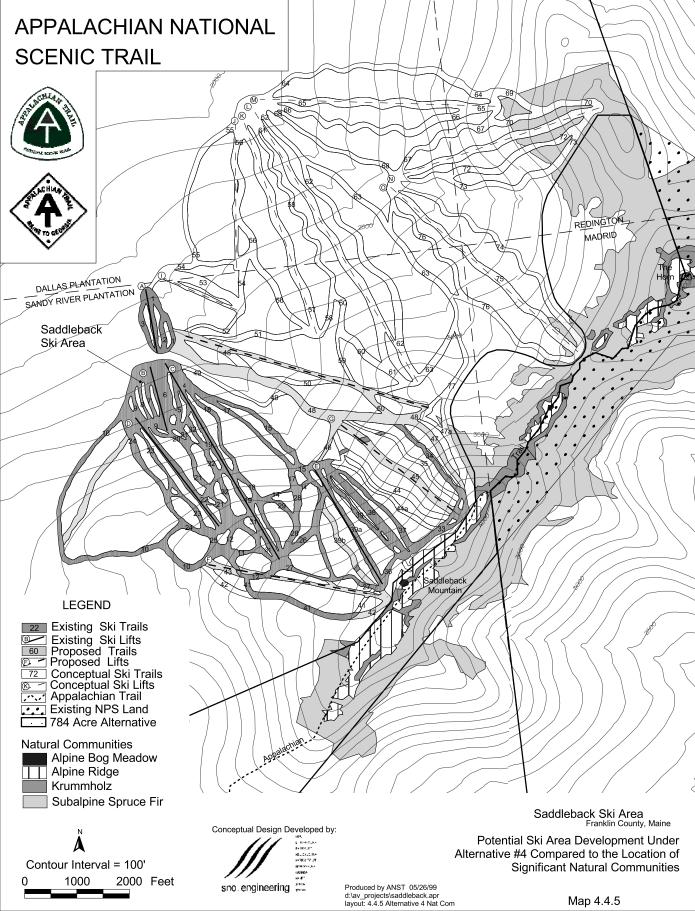
Photo-simulation 4.4.4 Photo-simulation of potential ski area development in the "saddle bowl" under Alternative #4 as seen from the Appalachian Trail on The Horn

The 58-acre alpine ridge community and the 46-acre krummholz community would be protected, as would approximately 594 acres of the 638-acre subalpine spruce-fir forest community. Two small alpine bog meadow communities – one near the summit of Saddleback and another in the "saddle" between the summit and The Horn – would be permanently protected. One monomictic mesotrophic lake community (Eddy Pond), comprising approximately 9 acres, would be protected.

As with other alternatives, direct impacts to these important natural communities associated with recreational foot traffic are comparatively minor in scope and can be effectively mitigated through proper trail design, trail maintenance, and educational programs for visitors.

Any secondary impacts to vegetation and natural communities associated with ski area development would occur within the boundaries of the existing planned development subdistrict, in the "saddle bowl," and on the westerly slopes of the 3,772-foot peak northwest of The Horn.

The construction and operation of the lifts and trails that were conditionally approved by the Maine Land Use Regulation Commission in 1989 and 1994 and upgrading existing lifts to industry standards would have the same degree of impact on vegetation as Alternative #1.



In addition, approximately 332 acres of clearing could occur if Saddleback expanded into the "saddle bowl" and constructed additional trails under the Upper Advanced lift. Most of this ski area expansion would occur at lower elevations in spruce slope and early successional forest types. No alpine or krummholz communities would be affected, but approximately 26 acres of the subalpine spruce-fir community would be cleared for ski trails and lifts and another 18 acres would be fragmented from the community.

When LURC issued its approval of Saddleback's proposed planned development subdistrict in 1989 and 1994, it stipulated that Saddleback Ski Area must submit:

an alternative location analysis that fully examines a wide range of alternative locations for each of these ski trail and ski lifts, and, to the Commission's satisfaction, determines suitable alternative locations that would, while serving skier needs, ...reduce the adverse impacts on alpine and protected subalpine vegetation.

If constructed in conformance with this requirement, construction of ski lifts and associated ski trails under Alternative #4 would have no impact on alpine and krummholz communities and limited impact on the subalpine spruce-fir forest community on Saddleback Mountain.

Rare Plant Species – This alternative would provide permanent protection for known populations of six rare plant species, which are scattered about the Alpine Ridge and Alpine Bog Meadow communities. These six plant species include *Carex bigelowii* (Bigelow's sedge), *Diapensia lapponica* (diapensia), *Geocaulon lividum* (northern comandra), *Hierochloe alpina* (alpine holy grass), *Minuartia groenlandica* (mountain sandwort), and *Vaccinium boreale* (sweet hurts). No known federally listed threatened or endangered plant species would be affected by this alternative.

Several other rare plant species are known to occur in alpine habitats in western Maine (see Chapter 3), but it is not known whether these species are present or absent on Saddleback Mountain. Impacts to these species cannot be measured until detailed field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

Impacts on known rare plant species would be similar to Alternatives #1, #2, and #3. These impacts, which are currently minor in scope, can be effectively mitigated through proper trail design, reconstruction, and maintenance, and educational programs for visitors.

Rare Animal Species – Any impacts to rare animal species would be secondary, and would occur as a result of ski area development outside the protected Appalachian Trail corridor. The most likely impacts to Bicknell's thrush (*Catharus bicknellii*) would occur as a result of removal or fragmentation of the subalpine spruce-fir forest community, which is its primary breeding habitat.

Approximately 594 acres of the 638-acre subalpine spruce-fir forest community in the study area would remain intact. (See Map 4.4.5.) Of the remaining 44 acres, approximately 26 acres would be cleared for ski lifts and trails and 18 acres would be fragmented from the primary community by ski area development. Though any potential reduction in overall breeding habitat is likely to

have a corresponding adverse impact on total population, the actual effect of this amount of habitat reduction on the total *Catharus bicknellii* population on Saddleback Mountain is unknown.

As with other alternatives, impacts to four other animal species – *Microtus chrotorrhinus* (yellow-nosed vole), *Piciodes tridactylus* (northern three-toes woodpecker), *Sorex dispar* (long-tailed shrew), and *Synaptomys borealis* (northern bog-lemming) – cannot be measured until field surveys can be conducted to determine the presence or absence of these species on Saddleback Mountain.

No known federally listed threatened or endangered animal species would be affected by this alternative.

<u>Wildlife</u> – This alternative would not result in any significant change in wildlife habitat. Approximately 784 acres would be protected in a natural state.

<u>Water resources</u> – This alternative would preserve Eddy Pond and the headwaters of all tributary streams on the eastern slopes of Saddleback Mountain.

Secondary impacts associated with ski area expansion could result in clearing up to 332 additional acres, with corresponding increases in run-off and peak flows during storm events. Impacts would be similar to Alternative #2.

Snowmaking coverage on 89% of the ski trails at full build-out under this alternative would require approximately 417.5 million gallons of water, or 1,281 acre-feet of water, which presumably would be withdrawn from Saddleback Lake.

Eddy Pond would not be used for snowmaking purposes.

<u>Cultural resources</u> – This alternative would ensure permanent protection of the existing footpath and much of the setting of the Appalachian National Scenic Trail, which has been identified by the Maine Historic Preservation Commission as a potentially significant historic resource that should be evaluated for nomination to the National Register of Historic Places.

Alternative #4 would not affect any known archaeological resources. According to the Maine Historic Preservation Commission, the probability of significant cultural resources (other than the Appalachian Trail) being present in the study area is low. However, no detailed field surveys have been conducted.

Recreation – This alternative would protect and preserve much of the existing recreational experience along this section of the Appalachian National Scenic Trail. The Appalachian Trail on the southern portion of Saddleback Mountain, like Katahdin, would continue to provide visitors with dramatic 360° views of the surrounding landscape, an intimate view of subalpine and alpine vegetation and the evidence of geologic and climatologic extremes, and some sense of the scenic grandeur of the natural world. The Appalachian Trail experience north of the summit would no longer be perceived as remote or natural.

The hiking environment and experience from Eddy Pond to the summit of Saddleback Mountain would be very similar to the environment and hiking experience described in Alternative #2. The four lifts (the Sundance, Upper Advanced, El Hombre, and No Name Nubble lifts) and six ski trails proposed by Saddleback Ski Area and conditionally approved by the Maine Lane Use Regulation Commission in 1989 and 1994 could be constructed. Saddleback Ski Area's existing facilities could be upgraded to modern industry standards. Impacts of both of these actions are described in Alternative #2. In addition, several new expert trails could be constructed on the terrain served by the Upper Advanced lift. Several of these trails would be visible from short stretches of the Appalachian Trail north of the summit of Saddleback Mountain.

North of the summit, changes in the landscape would begin to affect the Appalachian Trail visitor's sense of remoteness and solitude. The sense of predominance of the natural world would give way to an awareness of manmade features, even though most of these features would be located below or at a distance from the Appalachian Trail. The most apparent changes would be those ski facilities within the "visual foreground zone," which would be perceived as direct intrusions on the remote character of the Appalachian Trail. The primary change in the landscape would be a lift and three associated trails ascending to a point approximately 350 feet from the Appalachian Trail in the "saddle" between Saddleback Mountain and The Horn. This lift and its associated trails would change the Trail experience along this section of the Appalachian Trail from its current remote, natural character to a more developed recreational environment.

Under this alternative, according to Sno.engineering's "logical development scenario," eleven new lifts would be constructed and Saddleback Ski Area's existed facilities would be upgraded to industry standards. Seven new quad lifts would be built in the "saddle bowl" and up to the 3,772-foot peak. Thirty-six new ski trails covering an additional 332 acres of cleared area would be constructed, increasing the total number of ski trails to 77 and the total cleared acreage to 428. The entire development in the "saddle bowl" would be interconnected with the existing ski area.

Saddleback Ski Area would be able to undertake significant expansion. If Saddleback Ski Area were to construct the facilities that LURC has approved and expand to the full potential of the terrain available under Alternative #4, it could increase its capacity from existing 1,300 skiers at one time (SAOT) to 10,800 SAOT. In addition, the existing ski lift and trail network at Saddleback Mountain could be enhanced by upgrading existing facilities, widening several existing trails, and constructing several new trails within the boundaries of the planned development subdistrict. These enhancements would add facilities and terrain for an additional 1,700 skiers at one time. In total, these improvements could provide for an increase in capacity to approximately 12,500 skiers-at-one-time (SAOT), or roughly ten times the current capacity at Saddleback Mountain.

Table 4.4.6 Saddleback Ski Area, projected lift capacity at full build-out under Alternative #4, from the <u>Saddleback Ski Area Conceptual Development Plan, Optimal</u>, Sno.engineering, Inc., January 1999

Map	Name/Type	Length (ft.)	Vertical (ft.)	Hourly Capacity (persons/ hour)	VTF/ Hour (000)	Utilization Rate	CCC (guests)
A	Buggy/Baby Triple	1,285	164	1,200	197	85%	300
В	Surrey/Quad	1,397	228	2,200	502	85%	500
С	Stagecoach/Quad	4,540	1,130	2,200	2,486	90%	1,000
D	Pony Ex-press/Quad	2,380	647	1,200	776	90%	500
Е	Wells Fargo/Quad	2,622	974	1,800	1,753	90%	500
F	Sundance/Quad	3,500	750	1,200	900	90%	500
G	Advanced/Quad	3,000	1,010	2,400	2,424	90%	700
Н	Nubble/Detachable	5,000	910	1,500	1,365	90%	1,200
I	New/Quad	1,700	240	1,800	432	80%	700
J	New/Quad	2,800	380	1,200	456	80%	700
K	New/Quad	4,400	740	1,800	1,332	85%	1,500
L	New/Detachable	6,100	1,250	2,400	3,000	95%	1,400
M	New/Quad	4,500	970	2,400	2,328	90%	1,000
N	New/Quad	4,100	1,220	1,900	2,318	90%	800
О	New/Detachable	5,000	1,100	2,400	2,640	95%	1,200
Total		52,324	11,713	27,600	22,909		12,500

This substantial level of ski area expansion could be designed and constructed in a manner that provides a "comfortable carrying capacity" breakdown that compares favorably with the ideal industry average for beginner, intermediate, and advanced skier ability levels. According to Sno.engineering, special design features could be utilized to help alleviate the imbalances in the novice, low intermediate, and expert categories and make lower portions of the advanced trails more suitable to the advanced skiers.

The chart below compares the skill level distributions for ski trails that could be developed at Saddleback Ski Area under Alternative #4 with the skill level distributions for an "ideal" ski area in the Northeast region.

Table 4.4.7 Saddleback Ski Area, projected classification breakdown by "comfortable carrying capacity" and acreage at full build-out under Alternative #4, from the <u>Saddleback Ski Area</u> <u>Conceptual Development Plan, Optimal</u>, Sno.engineering, Inc., January 1999

Ability Level	Number	CCC**	Acreage	CCC**	Acreage	Ideal
	of trails	(guests)		Percent	Percent	
Beginner	3	740	12.8	6%	3%	5%
Novice	11	2,950	65.9	24%	15%	12%
Low Int.	8	1,430	36.6	11%	9%	18%
Intermediate	23	4,220	154.5	34%	36%	35%
Advanced	20	2,470	117.8	20%	28%	20%
Expert	11	690	40.4	5%	9%	10%
Totals:	77*	12,500	428.0	100%	100%	100%

^{*} includes one trail that provides access to condominiums and parking

Under this scenario, Saddleback Ski Area would become a major resort capable of attracting destination skiers throughout the east. The ski area would be similar in size and capacity to Killington in Vermont and Sunday River in Bethel, Maine. Sno.engineering also noted that the ski area could choose to exclude some of the novice trails in the expansion terrain, which would decrease the percentage of novice terrain and comfortable carrying capacity, and increase the percentage of expert terrain and comfortable carrying capacity.

There would be little or no impact on other recreational opportunities in the area. In addition to skiing and hiking, other recreational activities – hunting, fishing, boating, sight-seeing, and snowmobiling – would continue to be popular recreational attractions in the Rangeley Lakes area. ITS 84/89, an existing snowmobile trail that crosses the southeastern portion of the property, would remain open.

<u>Social and economic consequences</u> – The only direct impact associated with Alternative #3 would be a slight decrease in the property tax base in Sandy River Plantation, Madrid, and Redington due to the transfer of property from private to public ownership. This impact would be largely offset by payments under the Payments-in-Lieu-of-Taxes (PILT) program.

^{**} CCC, or "comfortable carrying capacity," is typically used as a measurement of the total ski area capacity (both uphill and downhill capacity), and is generally considered to be a more reliable measurement of a ski area's capacity than acreage

The remaining socioeconomic impacts identified in this analysis represent the impacts that could be projected to occur if the National Park Service acquires the lands identified in Alternative #4 and Saddleback Ski Area invests the funds necessary to expand the ski area to the full build-out of the "logical development scenario" under Alternative #4. These social and economic impacts would be secondary impacts, and would be dependent in part on the actions of the owner of Saddleback Ski Area and state and local agencies with jurisdiction over development of the ski area. As noted elsewhere, this socioeconomic analysis is not an appraisal of the property, nor is it an indication of the financial feasibility of pursuing ski area expansion at Saddleback. The comparative analysis at the end of this chapter provides additional information regarding the potential social and economic consequences of this and other alternatives.

It is also important to note that the impacts identified below assume complete certainty of ski area expansion to the maximum degree feasible under this alternative. However, the economic supply and demand factors discussed in the detail in the comparative analysis at the end of this chapter suggest that the likelihood of expansion at Saddleback Ski Area is not certain. Therefore, the impacts described below should not be considered as certain, but rather discounted to reflect the uncertainty of expansion.

Under Alternative #4, Saddleback Ski Area could increase its capacity from the current 1,300 skiers at one time (SAOT) to 12,500 SAOT. Under this scenario, skier-visits would be projected to increase from the current 33,250 per season to 208,000 (an increase of approximately six times the current visitation) at the end of a ten-year phase-in period. Although this represents a significant increase in visitation, the ski area's utilization rate (14%) would be low by industry standards. (See Appendix D for an explanation of the methodology used in making this projection.)

Table 4.4.8 below shows projected construction costs for potential expansion activity at Saddleback under the Alternative #4, assuming the ski area builds out to its full capacity.

Table 4.4.8 Annual construction costs: potential ski area expansion under Alternative #4

	Construction Spending in \$\$Millions										
											10 Year
Phase-In Year	1	2	3	4	5	6	7	8	9	10	Totals
On-Mountain	\$1.70	\$1.15	\$2.08	\$3.23	\$2.27	\$4.51	\$4.63	\$4.28	\$3.76	\$4.14	\$31.74
Base Area	\$0.00	\$0.29	\$0.29	\$0.29	\$8.40	\$8.40	\$0.29	\$0.29	\$0.00	\$0.00	\$18.26
Total Construction	\$1.70	\$1.44	\$2.38	\$3.52	\$10.67	\$12.91	\$4.92	\$4.57	\$3.76	\$4.14	\$50.00
- Lift Construction	\$1.70	\$0.66	\$0.56	\$1.26	\$1.34	\$1.85	\$2.39	\$1.80	\$1.98	\$2.00	\$15.54
Local Construction	\$0.00	\$0.79	\$1.82	\$2.26	\$9.33	\$11.06	\$2.53	\$2.77	\$1.79	\$2.14	\$34.46

Table 4.4.9 below shows projected annual construction jobs that could be created by expansion activity at Saddleback Ski Area, again assuming that the ski area builds out to its full capacity. Employment is shown in Full-Time Equivalents (FTEs). These jobs would cease when the phase-in is complete.

Table 4.4.9 Annual construction jobs: potential ski area expansion under Alternative #4

		Construction Employment in Full-Time Equivalents											
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year 'Total		
Employment	0	8	19	24	99	117	27	29	19	23	366		

Table 4.4.10 shows annual personal income that could be generated by construction activity related to expansion at Saddleback Ski Area under this alternative.

Table 4.4.10 Annual personal income generated by construction for ski area expansion under Alternative #4

	Total Personal Income in \$\$Millions											
		_			_	_	_		_		10 Year	
Phase-In Year	1	2	3	4	5	6	7	8	9	10	'Total	
Employment	\$0.00	\$0.24	\$0.55	\$0.68	\$2.81	\$3.33	\$0.76	\$0.83	\$0.54	\$0.64	\$10.38	

Table 4.4.11 below shows net increases in employment that could occur at Saddleback Ski Area through the phase-in period under Alternative #4. Employment is shown in FTEs. These employment estimates are based on ski industry values for ski areas of similar size. The number of FTEs in the tenth year would be expected to continue into the future.

Table 4.4.11 Net Increases in Saddleback Ski Area employment under Alternative #4

	Net Increase in Resort Employment (FTEs)											
Phase-In Year	1	2	3	4	5	6	7	8	9	10		
Net Increase	12	17	32	56	98	193	298	395	473	526		

Table 4.4.12 shows projected annual expenditures by Saddleback Ski Area visitors, both in terms of expenditures at the resort and in the remainder of Franklin County, assuming that the ski area builds out to its full capacity within ten years. The amount of expenditures in the tenth year would be expected to continue into the future.

Table 4.4.12 Expenditures by Saddleback Ski Area visitors under Alternative #4

		Annual Expenditures in \$\$Millions												
Phase-In Year	1	2	3	4	5	6	7	8	9	10	10 Year Totals			
In Resort	\$0.52	\$0.80	\$1.07	\$1.35	\$1.87	\$2.94	\$4.01	\$4.53	\$5.08	\$5.36	\$27.53			
Outside Resort	\$0.60	\$0.92	\$1.24	\$1.56	\$2.16	\$3.39	\$4.63	\$5.23	\$5.87	\$6.19	\$31.78			
Totals	\$1.12	\$1.72	\$2.31	\$2.90	\$4.02	\$6.33	\$8.64	\$9.76	\$10.95	\$11.55	\$59.31			

At the completion of the phase-in period, the economic modeling process indicates that approximately 432 new full-time job equivalents could be created in Franklin County if Saddleback Ski Area were to expand to full build-out capacity under Alternative #4. The economic modeling process projects that an annual total of \$3,865,500 in additional personal income could be created by the end of the tenth year. Table 4.4.13 below shows estimates of employment (FTEs) and personal income that could be generated by the ski area expansion on secondary, indirect, induced, and total employment.

Table 4.4.13 Secondary, indirect, induced and total employment and personal income generated by ski area expansion under Alternative #4

At Completion of Phase-in:		Employment FTEs	Annual Personal Income \$Millions
	Secondary	352	\$3.87
	Indirect	35	\$0.61
	Induced	46	\$0.80
		432	\$5.28

Table 4.4.14 below shows the migration rate (in households), population increases, and new housing demand that could be generated by ski area expansion under Alternative #4.

Table 4.4.14 Migration, population and new housing demand under Alternative #4

Migration Impact:	New Jobs 432	Migration X Rate 0.12	Migrant = Households 52		
Population Impact:	Migrant Households 52	Persons Per X Household 2.5	Population = Impact 130		
Housing Demand:	Migrant Households 52	New Demand X Rate 0.75	Housing = Need 39		

Expansion of the ski area consistent with the logical development scenario for Alternative #4 would create substantial increases in additional taxable property and demands for municipal services in the communities in which Saddleback Ski Area operates. If Saddleback Ski Area expands its facilities to the full build-out scenario identified for Alternative #4, property tax payments to Sandy River Plantation can be expected to increase commensurate with the increased valuation of the personal property that is added. In addition, a base terminal and portions of seven ski lifts would be added in Dallas Plantation, significantly increasing both the tax base and the need for municipal services. The top portions of two lifts would be located in Redington and the top portion of one other lift would be located in Madrid under Alternative #4. Further analysis would be needed to determine if this expansion would require transfer of lands from the current "tree growth" category to vacant or improved land status. Saddleback Ski Area's property tax payments to Redington and Madrid would increase slightly.

The substantial increases in ski area visitation under Alternative #4 would necessitate a number of changes in the community. Needs for additional police, fire, and emergency medical services, expanded or new solid waste disposal facilities, and road and highway improvements would become major issues. In addition to the impacts on municipal and county services, it is likely that significant increases in visitation would result in some secondary development in the area – including residential development to accommodate new employees and commercial development to support these new residents. This additional development would, in turn, put additional pressure on municipal and county services.

Consistency with Planning Documents – This alternative would be consistent to a degree with planning objectives for protection of "remote resources" along the Appalachian National Scenic Trail, which emphasize acquisition of sufficient interests to "preserve the remote character" and "protect native vegetation, wildlife, and water resources." The remote character of the Trail on the southeastern approach to the summit would be preserved, but the remote character of the "saddle bowl" would not be protected. This alternative also would be consistent to a significant degree with the planning objectives for protection of "significant natural area resources," which emphasize acquisition of sufficient interests "to preserve natural and geologic features, vistas, vegetation, wildlife, and water quality." This alternative would provide for the landowner's established development and expansion plans. In addition, a large portion of the undeveloped "saddle bowl" north of the existing ski area would be available for future expansion.

Alternative #4 also would be consistent with the current Maine Land Use Regulation Commission designations for the subject area. The entire 784-acre acquisition area falls within areas designated by LURC as either Mountain Areas Protection (P-MA) or Recreation Protection (P-RR) subdistricts. This alternative also would be fully consistent with the Recreation Protection subdistricts (P-RR) that have been identified to protect the primitive recreational resources of the Appalachian Trail as a national scenic trail and Eddy Pond as a Management Class 6 lake.

Saddleback Ski Area's existing planned development subdistrict would be excluded from the acquisition area. In order to expand its operations into the "saddle bowl," Saddleback Ski Area would be required to apply to LURC for rezoning areas from the current protection zoning (P-MA) and general management zoning (M-GN) to development zoning (D-PD). Saddleback Ski

Area also would be required to apply to the Maine Department of Environmental Protection (DEP) for a Site Law Permit and to the Town of Madrid for a special use exception from the current Woodland/Recreational District zone.

Impacts of the "No-Action" Alternative

Under the "no-action" alternative, the visual and natural environment of the Appalachian Trail on Saddleback Mountain would change significantly from the environment that exists today. This 3.5-mile section of the Appalachian Trail would be the only section of the Appalachian Trail that would not be permanently protected through public ownership. Though it would be an unlikely event, the landowner could close the Appalachian Trail at any time, creating a break in the continuity of the 2,160-mile long trail. Ski area expansion and other forms of development could occur adjacent to and potentially across the Appalachian Trail, depending on the landowner's actions and actions taken by the Maine Land Use Regulation Commission (LURC) and other agencies with regulatory jurisdiction over the area.

Presumably, LURC subdistrict zoning would ensure that ski area development would not intrude on the 200-foot Recreation Protection (P-RR) subdistrict zone for the Appalachian Trail and development would not intrude on the one-half mile Recreation Protection (P-RR) subdistrict zone surrounding Eddy Pond. In addition, LURC would not be likely to permit ski area expansion in locations that would affect the alpine and krummholz communities, and may restrict or prohibit ski area expansion into the subalpine spruce-fir forest community as well. However, even if LURC were to approve ski area expansion into the subalpine spruce-fir forest community, Sno.engineering has indicated that little additional desirable ski terrain is available on Saddleback Mountain beyond what is identified in Alternative #3. In other words, the development rights that Saddleback Ski Area would reserve under Alternative #3 are close to, if not in excess of, the maximum development potential of the property. As a result, the environmental consequences of the "no-action" alternative ultimately would not be significantly greater than the environmental consequences of Alternative #3.

Comparison of the Alternatives

As discussed in depth in the preceding analysis, the various alternatives for protection of the Appalachian Trail on Saddleback Mountain would result in markedly different outcomes for two recreational resources of regional and national significance. The chart below provides a simple contrast between four alternatives ranging from Alternative #1, which preserves the existing Appalachian Trail experience on Saddleback Mountain but substantially limits the potential for Saddleback Ski Area to expand, to Alternative #3, which would allow extensive expansion of Saddleback Ski Area but significantly change the current hiking environment and experience of hiking on the Appalachian Trail on Saddleback Mountain.

Table 4.5.1 Overview of the alternatives for protecting the Appalachian Trail at Saddleback Mountain

			s for Protecting the Idleback Mountain		Potential Sl Developi	
	Description of	Acres	Description of	Ski	Ski	Comfortable
	the Alternative	Protected	Protected Areas	Lifts	Trails	Carrying
						Capacity
	Existing Ski Area			5	41	1,300
#1	Preservation of	2,860	ridgeline, "saddle bowl,"	8	50	5,000
	Existing		southeastern slopes, large			
	Appalachian Trail		area around Eddy Pond			
	experience					
#2	Protection of the	893	ridgeline, alpine/subalpine	14	73	11,400
	Visual Foreground		area, visual foreground			
	Zone		zone, corridor around			
			Eddy Pond			
#3	Saddleback Ski	660*	ridgeline, alpine zone,	19	94	14,500
	Area's Proposed		large area around Eddy			
	Donation		Pond*			
#4	Sno.engineering's	784	ridgeline, most of	15	77	12,500
	Optimal Ski Area		alpine/subalpine area and			
	Development		foreground zone, corridor			
			around Eddy Pond			

^{*} however, Saddleback Ski Area would reserve rights within the "protected area" to construct and operate ski lifts; excavate, clear, and maintain ski trails; construct and use buildings, snowfencing, snowmaking equipment, platforms, signs, powerlines, utilities, water lines, and access roads; dam, withdraw water from, add to, and change the depths of water in Eddy Pond; and construct pipelines, sheds, and other facilities for snowmaking in and around Eddy Pond

Geology, land forms, and soils – Alternative #1 would have the least impact on soils, with only minimal additional disturbances of high-elevation soils. Conversely, Alternative #3 would have the most impacts on soils, as ski area development would result in clearing and changes in vegetation on approximately 428 acres. In addition, a substantial percentage of this development would occur at the highest elevations on Saddleback Mountain, where soils are shallow and highly susceptible to disturbance. Under Alternatives #2 and #4, most ski area development would occur at lower elevations, with substantially less impact to soils.

<u>Visual resources</u> – The section of the Appalachian National Scenic Trail across Saddleback Mountain provides some of the most dramatic scenery along the entire A.T., and is comparable to only a few other areas – Katahdin, the Presidentials in New Hampshire, the Mt. Rogers National Recreation Area in Virginia, and the southern Appalachian balds. The Appalachian Trail currently traverses through this environment in a near pristine natural setting, with few visual intrusions.

Alternative #1 would retain the existing scenic environment of the Appalachian Trail across Saddleback Mountain, which presently meets a Visual Quality Objective of "retention." Under Alternatives #2 and #4, some degree of change in the visual environment would occur, resulting in a change to a Visual Quality Objective of "partial retention" for most middleground views

from the Trail. Ski area expansion under Alternative #4 also would result in at least one substantial modification in the "visual foreground zone" as seen from the Appalachian Trail. Under Alternative #3, the scenic environment of the Appalachian Trail between the summits of Saddleback Mountain and The Horn would change from a current Visual Quality Objective rating of "retention" to a Visual Quality Objective of "modification." These potential changes in the scenic environment of the Appalachian Trail are best represented in the photo-simulations provided in Chapter 4.

<u>Vegetation and natural communities</u> – The alpine ridge, alpine bog-meadow, krummholz, and subalpine spruce-fir communities on Saddleback Mountain are ecologically important. All four alternatives would protect the alpine ridge, alpine bog meadow, and krummholz communities on Saddleback Mountain. Alternative #1 would protect virtually all of the subalpine spruce-fir forest community. Ski area development under Alternatives #2 and #4 would result in clearing or fragmenting less than 44 acres of the subalpine spruce-fir forest community. Ski area development under Alternative #3 would result in clearing approximately 66 acres and fragmentation of another 86 acres of the subalpine spruce-fir forest community.

<u>Rare plant species</u> – Six rare plant species are known to occur on Saddleback Mountain. All four alternatives would protect known populations of these rare plant species. However, no detailed site-specific surveys have taken place to determine if other populations of these species or other rare plant species may exist on Saddleback Mountain.

Rare animal species – The four alternatives would result in varying degrees of secondary impacts to the primary breeding habitat for Bicknell's thrush, which breeds in high-altitude subalpine spruce-fir forest communities. Alternative #1 would protect virtually all of the breeding habitat for Bicknell's thrush. Ski area expansion under Alternatives #2, #3, and #4 would affect 36, 152, and 44 acres, respectively, through clearing or fragmentation of subalpine spruce-fir forest. As noted previously in the analysis, although a potential reduction in breeding habitat for Bicknell's thrush can be expected to result in a corresponding reduction in total population, the actual effect of this amount of habitat reduction is unknown and cannot be known until field studies have been conducted.

Though several other rare animal species are known to exist in similar high-elevation habitats in western Maine, no detailed site-specific studies have taken place to determine if populations of these species exist in the high-elevation habitats of Saddleback Mountain.

<u>Wildlife</u> – Each of the alternatives would preserve some wildlife habitat in its natural state. Alternative #1 would preserve approximately 2,860 acres; Alternative #2, 893 acres; Alternative #3, 585 acres (approximately 75 acres inside the corridor would be developed for ski area facilities and trails); and Alternative #4, 784 acres. Alternatives #1, #2, and #4 would preserve the fisheries in Eddy Pond. Under Alternative #3, Eddy Pond would be used for snowmaking, which could have severe impacts to salmonids and other aquatic life forms if water levels or water quality varied significantly.

<u>Water resources</u> – Ski area expansion would result in increases in run-off and peak flows during storm events under all alternatives. Impacts to water quality would be closely correlated with the

amount and type of cleared forest for ski trails and lifts, with the most substantial impacts being associated with clearing of high-elevation subalpine spruce-fir forest acreage.

If the ski area were to expand to the full extent of the "logical development scenarios" for the four alternatives, the following amounts of water would be required for snowmaking coverage:

Table 4.5.2 Quantity of water needed for snowmaking under the "logical development scenarios" for the four alternatives

Alternative #	Acres of skiable	Percent snow	Millions of	Acre-feet of
	terrain	coverage	gallons of water	water
#1	156	81%	136.4	418.6
#2	358	88%	337.5	1,035.7
#3	524	92%	561.8	1,724.0
#4	428	89%	417.5	1,281.0

The 336-acre Saddleback Lake would be the logical source for this quantity of water. Under Alternative #3, Eddy Pond (nine acres) also would be dammed and used for storage and withdrawal of water, resulting in potentially significant changes in nutrient levels, chemical characteristics, and temperature.

<u>Cultural resources</u> – All four alternatives would protect the physical footpath of the Appalachian Trail, which has been identified by the Maine Historic Preservation Commission as a potential significant historic resource. Alternative #1 would protect the physical setting of the Trail as well. Alternatives #2 and #4 would retain much of the current setting for the Trail; Alternative #3 would alter much of the setting.

<u>Recreation</u> – Each of the four alternatives provides a different degree of protection for the exceptional remote recreational experiences that are currently provided along this section of the Appalachian National Scenic Trail.

Saddleback Mountain is one of only two places on the entire 281-mile length of the Appalachian Trail in Maine where visitors are above tree-line for an extended period of time (and one of only a handful of places along the entire Appalachian National Scenic Trail that affords this opportunity). The Appalachian Trail on Saddleback Mountain currently affords hikers with outstanding opportunities for experiencing and exploring a rare alpine and subalpine environment, a sense of remoteness and detachment from civilization, and an extraordinary awareness of the power and grandeur of the natural world. Alternative #1 would preserve this experience, which is considered to be one of the finest remote outdoor recreation opportunities in the Northeast and one of the finest opportunities along the length of the entire Appalachian Trail.

Alternatives #2 and #4 would preserve much of this experience but permit some degree of change in the setting, particularly on that portion of the Trail between the summits of Saddleback Mountain and The Horn. Under Alternative #2, this remote recreational environment would be preserved between Eddy Pond and the summit of Saddleback Mountain. North of the summit, ski area expansion in the lower and more westerly portions of the currently undeveloped "saddle bowl" would begin to affect hikers' sense of remoteness and detachment from civilization.

Under Alternative #4, the section of the Appalachian Trail north of the summit of Saddleback Mountain would no longer be perceived as remote, as ski area development within 300 feet of the footpath in the "saddle" would cause a fundamental change in the recreational setting.

Alternative #3 would result in dramatic changes in the recreational experience on this section of the Appalachian National Scenic Trail. In lieu of the expansive, undeveloped natural world that currently surrounds this section of the Appalachian Trail, ski area development would be visible for virtually the entire traverse of Saddleback Mountain. Damming, drawing water from, and adding water to Eddy Pond would result in visible changes in water levels in the pond; snowmaking pipes, utilities, and an improved and more frequently used access road in a 200-foot wide right-of-way would change the remote character of the area surrounding Eddy Pond; two catwalk ski trails would cross the Appalachian Trail high on the southwestern flank of Saddleback Mountain just below the alpine zone; and at least one ski lift and associated ski trails on the currently undeveloped southeastern side of the mountain would be visible from the summit of Saddleback Mountain. The setting of the Appalachian National Scenic Trail would change even more dramatically north of the summit of Saddleback Mountain, with three ski lifts and associated ski trails ascending to within 300 feet of the Trail footpath on Saddleback Mountain, in the "saddle," and on The Horn, and six other lifts and associated trails in lower elevations of the bowl.

Each of the alternatives also provides varying degrees of opportunity for expansion of Saddleback Ski Area. It is important to note that under all of the alternatives, Saddleback Ski Area would be able to engage in a significant level of expansion activity if it chooses to do so. (In fact, Saddleback Ski Area currently has the potential to expand to more than twice its current capacity, with or without the implementation of any of the alternatives. This potential has existed since 1989 and 1994, when the Maine Land Use Regulation Commission conditionally approved Saddleback Ski Area's proposed expansion.) Table 4.5.3 below compares the current ski facility with the potential expansion of the ski area at full build-out under each of the alternatives.

Table 4.5.3 Comparison of current and potential capacity of Saddleback Ski Area

							Lift				
		Skiable				Lift	Capacity				% Snow-
		Terrain	Number	Vertical	Number	Capacity	(VTF		Inter-		making
	SAOT	(Acres)	of Trails	Rise	of Lifts	(ppl/hr)	'000s)	Beg./Nov.	mediate	Advanced	Coverage
Current	1,300	96	41	1,750	5	3,790	2,200	19%	55%	26%	55%
Alt. 1	5,000	156	50	1,800	8	13,200	9,872	19%	63%	18%	81%
Alt. 2	11,400	358	73	2,000	14	19,890	16,224	35%	41%	24%	88%
Alt. 3	14,500	524	94	2,000	19	28,090	25,063	26%	38%	36%	92%
Alt. 4	12,500	428	77	2,000	15	27,600	22,909	30%	45%	25%	89%

Under all of the alternatives, Saddleback Ski Area could construct the facilities approved by the Maine Land Use Regulation Commission in 1989 and 1994. Saddleback Ski Area also could upgrade its existing facilities to current industry standards and add more trails within the boundaries of its existing planned development subdistrict under all of the alternatives. These

improvements would allow Saddleback Ski Area to quadruple its capacity, to approximately 5,000 skiers at one time. However, under Alternative #1, this would be the extent of the ski area's potential for expansion, and Saddleback Ski Area would remain a mid-sized ski area similar to Loon Mountain or Waterville Valley in New Hampshire.

Alternatives #2, #3, and #4 would provide for significant expansion of Saddleback Ski Area. Under all three of the alternatives, Saddleback Ski Area could expand to become one of the major destination resorts in the Northeast. Under Alternative #2, Saddleback Ski Area could expand its capacity to 11,400 skiers at one time, but the ski area would have a limited amount of terrain that it could offer to expert skiers. Under Alternative #3, the ski area's capacity could increase to 14,500 skiers at one time, but the ski area would have to construct lifts and trails in areas that contain important natural plant communities, have shallow soils, provide habitat for a rare animal species, and are visually sensitive. Under Alternative #4, the ski area could expand its capacity to 12,500 skiers at one time, but the ski area would need to expand into visually sensitive areas. Table 4.5.4 below compares the number and types of trails that could be provided at Saddleback Ski Area under the various alternatives.

Alternatives #3 and #4 most closely approximate the ideal balance among ability levels at a Northeastern ski area. Alternative #2 also would closely approximate this ideal balance if several of the advanced ski trails proposed under Alternative #4 were incorporated into Alternative #2.

Table 4.5.4 Comparison of ski trails, terrain, and capacity by skier ability levels for the "logical development scenarios" for the four alternatives

	Skier Ability Classification Comparison by Acreage, Comfortable Carrying Capacity (CCC), and Number of Trails													
		Beginner	Novice	Low Inter- mediate	Inter- mediate	Ad- vanced	Expert	Total # of trails						
Existing Ski Area	CCC % Acres % # Trails	0% 0% 0	27% 19% 6	14% 13% 6	42% 42% 15	11% 16% 6	6% 10% 7	41						
Alter- native #1	CCC % Acres % # Trails	0% 0% 0	19% 12% 7	30% 23% 8	33% 35% 18	14% 22% 9	4% 8% 7	50						
Alter- native #2	CCC % Acres % # Trails	8% 4% 3	27% 18% 11	12% 10% 8	29% 34% 22	22% 30% 21	2% 4% 7	73						
Alter- native #3	CCC % Acres % # Trails	6% 2% 3	20% 13% 11	10% 7% 8	28% 28% 27	28% 32% 25	8% 18% 19	94						
Alter- native #4	CCC % Acres % # Trails	6% 3% 3	24% 15% 11	11% 9% 8	34% 36% 23	20% 28% 20	5% 9% 11	77						
Ideal		5%	12%	18%	35%	20%	10%							

Social and Economic Consequences: The various alternatives for transfer of land to National Park Service ownership would have little direct measurable socioeconomic impact in and of themselves. The only clearly direct impact associated with protection of the Appalachian Trail would be a slight decrease in the property tax base in Sandy River Plantation and Madrid (and possibly Redington), due to the transfer of property from private to public ownership. This impact would be largely offset by payments under the Payments-in-Lieu-of-Taxes (PILT) program.

The alternatives could have secondary impacts if Saddleback Ski Area chooses to expand outside (or, under Alternative #3, outside and inside) the Trail corridor. Saddleback Ski Area has declined to provide any information regarding plans for future expansion beyond the facilities conditionally approved by LURC. According to Sno.engineering, Inc., which conducted the socioeconomic analysis of the alternatives, the lack of long-range plans for developing resort facilities, cultural attractions, and an adequate bed base represents a deficiency that would have a negative impact on market performance. In addition, Sno.engineering indicated that three basic realities of the ski industry would affect the potential market performance at Saddleback Ski Area under all of the alternatives: (1) access to markets, (2) infrastructure, and (3) competition. According to Sno.engineering's analysis:

- Saddleback Ski Area is not within an easy driving distance of major northeastern metropolitan areas, nor does it have easy access to commercial airline service. Comparatively poor access to markets reduces any ski area's ultimate visitation potential.
- The Rangeley area is rural and, while an infrastructure system is in place, it does not currently have the capacity to handle the demands that would be created by a mountain resort hosting several hundred thousands of visits annually. This support infrastructure would have to be substantially expanded if visitation at Saddleback were to increase substantially.
- A number of regional resorts have already captured a share of the available ski market in the Northeast, which has remained relatively stable for the last decade. An expanded Saddleback Ski Area would have to compete with these established areas for market share.

Based on these factors, Sno.engineering developed projections for visitation under each expansion scenario, assuming that the ski area was able to build out to the maximum degree possible under each alternative. The results are shown in Table 4.5.5 below.

Table 4.5.5 Potential annual skier visits at Saddleback Ski Area during a ten-year phase-in period

_	Annual Skier Visits												
	Phase-In Period												
Year	Current	1	2	3	4	5	6	7	8	9	10		
Alt. 1	33,256	35,000	36,000	37,000	38,000	40,000	44,000	48,000	50,000	52,000	53,000		
Alt. 2	33,256	45,000	50,000	56,000	61,000	73,000	95,000	118,000	129,000	140,000	146,000		
Alt. 3	33,256	53,000	63,000	73,000	82,000	102,000	141,000	181,000	200,000	220,000	230,000		
Alt. 4	33,256	51,000	59,000	68,000	77,000	94,000	129,000	164,000	182,000	199,000	208,000		

Because of limitations noted above, Sno.engineering projected that the skier-visit response to increases in capacity at Saddleback Ski Area would be less than the industry and regional norms, with utilization rates ranging from 9% under Alternative #1 to 14% under Alternative #4. Still, all of the alternatives would provide for significant increases in visitation at Saddleback Ski Area, with corresponding economic benefits for the Rangeley region and Franklin County. The most relevant socioeconomic impacts are summarized in Table 4.5.6. All of the alternatives assume that Saddleback Ski Area would expand to the maximum degree possible and in a manner reasonably consistent with the "logical development scenario" for each alternative. (It should be noted, however, that the ski area has not begun construction of ski area facilities approved by the Maine Land Use Regulation Commission ten years ago, and the likelihood of actual expansion occurring is less than certain. As a result, the social and economic consequences should not be considered as a certainty, and should be discounted appropriately to reflect the uncertainty of expansion.)

Saddleback Ski Area currently employs the equivalent of 21 full-time employees. If Saddleback Ski Area were to expand to the maximum degree possible under Alternative #1, it could generate 168 permanent full-time equivalent (FTEs) jobs at the ski area and another 49 jobs in other sectors in Franklin County. Ski area expansion under Alternative #2 could generate as many as 469 FTEs at the ski area and 279 FTEs in other sectors in Franklin County; under Alternative #3, as many as 605 FTEs at the ski area and 487 FTEs in the county; and under Alternative #4, 526 FTEs at the ski area and 432 FTEs in the county.

Visitor expenditures in Franklin County would follow a similar pattern, with Alternatives #2, #3, and #4 resulting in significantly higher levels of visitor expenditures than Alternative #1. Ski area expansion under Alternative #3 would generate the most visitor expenditures, with \$66.90 million over a ten-year period, followed closely by Alternative #4, which would generate \$59.31 million in visitor expenditures over that same timeframe. Ski area expansion under Alternative #2 also would generate a substantial increase in visitor expenditures, to \$38.27 million. Alternative #1 would generate the least in terms of visitor expenditures, at an estimated \$6.85 million over a ten-year period.

Increases in visitation would result in similar increases in total personal income in Franklin County, with ski area expansion creating approximately \$600,000 in total personal income in Franklin County under Alternative #1; \$3.41 million under Alternative #2; \$5.94 million under Alternative #3; and \$5.26 million under Alternative #4.

In sum, Alternatives #2, #3, and #4 would provide for significant increases in over-all economic activity in Franklin County, with Alternatives #3 and #4 generating the most substantial activity. Table 4.5.6 below compares the major socioeconomic impacts of all of the ski area expansion scenarios.

Table 4.5.6. Comparison of Socioeconomic Impacts of Potential Ski Area Expansion under the Alternatives

	S	ki Area E.	xpansion :	Scenario
	1	2	3	4
Construction Activity (Cumultative for Phase-In Period)				
Local Construction Spending (\$Millions)	\$11.98	\$29.23	\$42.58	\$34.46
Total Construction FTEs	191	309	454	366
Personal Income Created by Construction (\$Millions)	\$5.39	\$8.77	\$12.88	\$10.38
Ski Area Operations and Visitation (Annual at End of Phase	-In)			
Saddleback Employment (FTEs)	168	469	605	526
Visitor Expenditure Totals (\$Millions)	\$6.85	\$38.27	\$66.90	\$59.31
Total Employment Created (Franklin CtyFTEs)	49	279	487	432

The potential expansion of ski area operations at Saddleback Ski Area also would create additional taxable property for the communities in which Saddleback operates, as well as require increases in demand for municipal services. The need for police, fire, and medical emergency services can be expected to increase proportionally with increases in Saddleback Ski Area visitation. Careful monitoring of emergency services would be necessary over the course of expansion activity to ensure that proper staffing levels and funding are maintained to accommodate the effective population of the area. Additional need for solid waste disposal facilities would also become an issue with increased visitation and any additional commercial and lodging activity that may occur outside the resort. Finally, increased visitation would also increase traffic on state and local roads, potentially resulting in demand for some improvements. A substantial increase in ski area visitation and activity levels would necessitate a number of changes in the community. In addition to the direct impacts on municipal and county services, it is likely that significant increases in visitation would result in some secondary development in the area, including residential development to accommodate new employees and commercial development to support these new residents. This additional development would, in turn, put additional pressure on municipal and county services.

The ski area expansion scenario under Alternative #1 would not require a substantial change in the area support infrastructure. While the number of area visitors would certainly increase, the total volume would not be sufficient to require major changes in the local/regional transportation system or municipal services.

Under Alternative #2, it is likely that the Rangeley community would feel some impact from increased visitation. Initially, there would be some pressure to increase available traveler services such as lodging, eating/drinking and retail. In addition, the increase in 'people activity' would result in higher demands on municipal services (fire, police, emergency) and likely would result in increased capital and personnel costs.

Under Alternatives #3 and #4, there would be significant community impacts in the Rangeley area. Substantial increases in visitation would certainly result in new commercial growth, including lodging, eating/drinking establishments, and retail stores. These businesses would, in turn, require a significant number of new employees. Over a period of years, this would result in

population increases and demands for additional housing in the Rangeley area. While it is unlikely that the regional transportation system would be overwhelmed, Saddleback's access road would certainly require upgrading. The service demands generated by over 200,000 winter visitors on an annual basis would either result in significant upgrades or expansions of the existing municipal service systems in Rangeley, or the creation of independent service systems within the Saddleback Ski Area resort. Ultimately, the community-related impacts of Alternatives #3 and #4 would not differ substantially from one another.

Consistency with Planning Documents – Alternatives #1 and #2 would be consistent with planning objectives for protection of "remote resources" and "significant natural area resources" along the Appalachian National Scenic Trail. All four alternatives would provide for the landowner's current development and established plans for ski area expansion. Alternatives #2, #3, and #4 also would provide for significant expansion of the ski area into currently undeveloped areas.

The protection of the Appalachian Trail under all four alternatives would be consistent with established LURC subdistrict zoning in the area, as virtually all of the study area currently falls within a Mountain Areas Protection subdistrict (P-MA) or a Recreation Protection subdistrict (P-RR). Ski area expansion beyond what has currently been approved by LURC would require rezoning of areas currently designated as protection areas. Ski area expansion under Alternatives #3 and #4 also would require a Site Law Permit from the Maine Department of Environmental Protection and a special use exception from the Town of Madrid.

<u>Relationships between Short-term Uses and Long-term Productivity,</u> <u>Cumulative Impacts, and Irreversible and Irretrievable Impacts</u>

The protection of the Appalachian National Scenic Trail would enhance the biological and natural processes that currently exist on the lands that are acquired to protect the Trail. The removal of these lands from further development would protect vegetation, rare plants and animals, soils, water quality, and visual quality. However, the National Park Service's action to acquire these lands also could affect to some degree the potential future expansion of Saddleback Ski Area, with consequent social and economic consequences.

Under Alternative #1, approximately 2,860 acres would be irretrievably committed to protection of the Appalachian Trail; under Alternative #2, 893 acres; and under Alternative #4, 784 acres. These lands would not be available for ski area expansion. Under Alternative #3, although approximately 660 acres would be identified for Trail protection, a substantial amount of ski area development could occur within the corridor.